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# Diving & Snorkeling

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# Diving & Snorkeling

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Photo by Candy Buff



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- Non-fiction Articles
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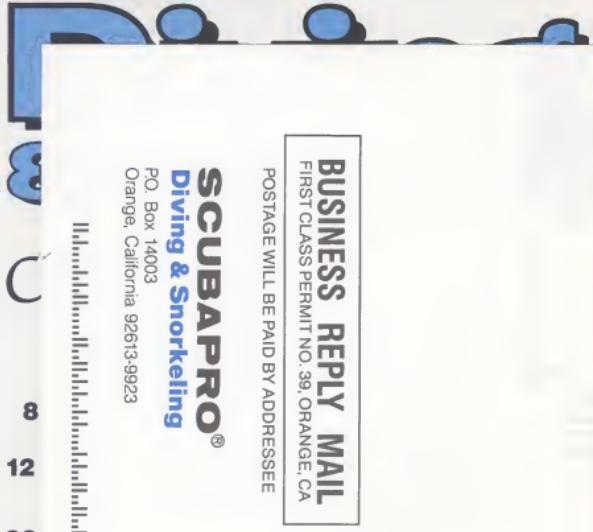
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DR. RICHARD E. EASTON, M.D.

STEPHEN FERBER  
Editor-in-Chief  
EDWARD MONTAGUE  
Editor  
DOROTHY BRITTA  
Design

Aqua-Field Publishing Company, Inc.

STEPHEN FERBER

Publisher

EVELYN PALOVCAK

Assistant to Publisher

EDWARD MONTAGUE

ROBERT ELMAN

Magazine Group Editors

LISI FILI

Managing Editor

ANITA SCHETTINO

Art Director

LAURIE K. DOYLE

Senior Associate Art Director

SHARON KISSLING

Art Associate

DOROTHY BRITTA

Art Associate

DIANE DiCRISTOFARO

Production Assistant

BARRY L. BESTLE

Computer Services Manager

Advertising Coordinator

Dave Franks

SCUBAPRO

3105 E. Harcourt

Rancho Dominguez, CA 90221

(213) 639-7895

All photographs, unless otherwise credited, are by the authors

Spring 1990

SCUBA-PRO Diving & Snorkeling is published four times a year by Aqua-Field Publishing Company, 66 West Gilbert St., Shrewsbury, New Jersey 07707. All rights reserved under International and Pan American conventions by Aqua-Field Publishing Company, Stephen Ferber, President. The contents of this publication may not be reproduced by any method without prior written consent of the publisher. Copyright © 1990 by Aqua-Field Publishing Company.

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Manuscripts and artwork submitted to Aqua-Field Publishing Company, should be accompanied by self-addressed envelopes and return postage. All contributions receive consideration, but the publisher assumes no responsibility for material submitted. National editorial office: Aqua-Field Publishing Company, 66 West Gilbert St., Shrewsbury, New Jersey 07707. Telephone: (201) 842-8300.

Cover Photo by  
D. Holden Bailey

## Editor's Page

Six years ago, Lou Fead wrote an article called "Too Old To Dive" for this magazine. After talking to a number of experts and older divers, Lou concluded anyone in reasonably good health could take up scuba diving at any age. Like many older divers, Lou suggested diving the decompression tables conservatively, finding a buddy whose diving objectives matched his own, and leaving the anchor detail for younger divers.

In this issue of Diving & Snorkeling, Joni Dahlstrom takes a look at the growing number of older Americans taking up scuba diving. As diving equipment became lighter in weight and new technologies were applied to improve it and made diving less complicated, it was only natural that active older people would investigate its possibilities for themselves. Once they discovered the sport did not require endurance swims, complicated mathematical formulas, or carrying heavy gear, oldsters took to it with enthusiasm. If you have a friend or relative whom you think is a candidate for diving but needs a little push, have them read Joni's article beginning on page 18.

Some time ago, Marcia Stone wrote from the Sultanate of Oman proposing an article on the diving there. Few foreigners had ever been allowed within this ancient land until recently, but government policy has changed and tourists are being admitted. Lying on both the Arabian Sea and the Gulf of Oman provides for unique marine conditions. Both kelp and coral can be found in the same area as can many unusual species of fish. For a first look at this remarkable country and its seas, turn to page 12.

Two additions to our ongoing reports on destinations a bit off the beaten track are also included. These are a bit closer to home. D. Holden Bailey traveled to Tobago to have a look at the diving on this sister island of Trinidad. Just a stone's throw from Venezuela, Tobago offers good diving on both its Atlantic and Caribbean sides with some wonderful jungles in between.

Tim O'Keefe visited Anguilla, a small hideaway island in plain sight of popular St. Martin. Tim found the diving good and the food terrific. Tim shares his impressions of Anguilla on page 53 and recipes from the island on page 58.

It seems every state with a coastline is involved in an artificial reef program. Fishermen and divers enthusiastically support the sinking of each new wreck, confident it will provide a bonanza of recreational opportunities. On page 36, Linda Reeves raises an interesting question. Are these artificial reefs serving as new breeding grounds or are they simply attracting nearby fish and concentrating them to be easy prey for both their natural enemies and for man?

Florida is studying the situation for the first time, but it is interesting how naively we embrace an idea without first thoroughly studying its consequences.

Reports indicate that the Caribbean islands struck by Hurricane Hugo last fall are rapidly recovering. Divers planning a spring or summer trip are advised to check in advance, but all seems to be back in good working order.

Edward Montague

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Diver ducks behind a rock to avoid charge of bull sea lion at Los Islotes. The Melia is Cabo San Lucas' newest and largest hotel.

**M**exico's Baja California doesn't offer crystal-clear water, or pretty corals and colorful little reef fishes. There is no calypso music and no dedicated dive resorts. Baja offers instead a vibrant desert landscape and the warm hospitality of Mexico. Baja is the Sea of Cortez, and its incredible diversity of marine life. Baja is big fishes and marine mammals. It provides a chance for divers to encounter something larger than themselves underwater, and for many, that's the ultimate thrill.

For years, the Baja peninsula was a true frontier. John Steinbeck and Erle Stanley Gardner visited and wrote about it in the 1940s. The only way to get there was by boat, private plane, or by Jeep.

Changes began in 1973, when the Mexican government paved Highway One. This made it possible to travel the entire length of the 1,000-mile peninsula by automobile, from Tijuana to Cabo San Lucas. The highway was intended to bring commercial development to Baja, but it didn't happen overnight. For nearly another decade, Baja remained the province of campers, four-wheelers, and desert rats. Divers had to be virtually self-sufficient in terms of boats and compressors, because services were primitive or non-existent.

Commercial development began in earnest in the early '80s. The Fall 1986

*No longer  
the end of a  
dirt road, Baja  
now offers  
world-class  
diving with  
amenities to  
match.*

BY CLARK ADDISON

# Baja in the '90s

issue of *Scubapro Diving & Snorkeling* described the changes that were underway. Last summer we returned to update that report. The projects which were then in development have now matured. Finally, the Sea of Cortez is readily accessible to the modern vacationer. From Los Angeles, a two-hour flight will put you in Loreto, La Paz, or Cabo San Lucas, to enjoy anything from a weekend getaway to a full-fledged diving vacation. All three locations have full-service diving facilities, boasting a track record of reliability and success.

Clark Addison is a free-lance writer and photographer living in California who frequently writes about new diving products.



## Travel Tips

When guarding their nests, sergeant majors can be very aggressive.

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from the Sea of Cortez. It was about the young daughter of a Mexican fisherman who had magical experiences while riding the manta rays at El Bajo. I consider it his best work. Unfortunately, not enough of the reading public agreed, because it was Benchley's first commercial flop. Also unfortunately, life imitated art. In the book, some fishermen followed the girl to the seamount and slaughtered the rays. In real life, the rays disappeared after 1982. Some blamed the warm waters of El Niño, but that episode lasted only two years. Manta rays are fished for food in the Sea of Cortez, and animals that trusted man have always been easy prey.

But even without manta rays, El Bajo continues to be an outstanding dive site. The seamount consists of three pinnacles; the shallowest one is 55 feet deep, the others are around 80 feet. A ridge connects them, with drop-offs on all sides descending into extremely deep water. This attracts large pelagic fish, including tuna, amberjacks, dorado, wahoo, and yellowtail. Hammerhead sharks are here, too. These prehistoric-looking monsters range over eight feet in length, but are usually shy and seen by only the first divers on the site each day.

Visibility at the seamount is usually excellent by Baja standards, ranging to over 100 feet on good days. For less experienced individuals, there is good diving at 80 feet and less. Coral heads, gorgonians, and colorful anemones decorate the shallow pinnacle. Reef fish, including angels, wrasses, puffers, and butterflyfish swim over the rocks. In the crevices are Panamic green morays, and large dog snappers. But the most exciting sights are the unexpected ones. Marlin, whale sharks, and several kinds of whales have been spotted by divers at El Bajo. It is chance meetings like these that keep divers returning year after year.

One such meeting occurred last summer. We were aboard Fernando's Skipjack, heading from El Bajo to Los Islotes, when the skipper spotted a large school of pilot whales on the surface. Swimming lazily southward, they hesitated at a while, seemingly attracted by the idling engine. Aboard the boat, we watched them spout, show their flukes as they sounded and marveled as some leaped out to the water and flopped in sideways with a mighty splash.

Gingerly entering the water, we fully expected them to sound and disappear into the depths. They did, but within a minute or so they reappeared below us. Grabbing a quick breath through my snorkel, I descended to about 25 feet. There were whales everywhere. For every animal on the surface, there must have been five underwater.

(Please turn to page 60)

tanks for rental, and 20 full sets of gear. He owns four boats, including two 24-foot Skipjacks. With these vessels, the running time to El Bajo—formerly three hours—has been cut in half. The capacity of each Skipjack is eight divers. For larger groups, Fernando charters the 45-foot water taxi, *Tío Eduardo*. Trips aboard her are slower, but there is plenty of shade, room to relax, and—as on all day trips—delicious lunches and drinks are served.

La Paz' prime dive sites are El Bajo, Los Islotes, and the wreck of the *Salvaterra*. El Bajo is a remote seamount, that first attracted the attention of the diving world in 1981 because of the tame manta rays that hung around there. For two seasons, these gentle giants of the sea allowed divers to climb on their backs and take a ride. When scuba divers left the water to refill tanks, even snorkelers were able to ride the rays.

Author Peter Benchley (*Jaws*) went there and was inspired to write *The Girl*

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# Fit for a Sultan



Wooden Arabian dhows are still used by fishermen in Oman. At far left are a pair of golden-yellow Arabian butterfly fish. Juvenile anglefish is hopefully keeping an eye on a lionfish.

**BY MARCIA STONE**

*Photos by John Hoover*

## *Few have ever visited the ancient Sultanate of Oman, but the door is being slowly opened and the diving's great.*

**F**ew people in the world today can claim to have visited the ancient sultanate of Oman. And fewer still have dived its tropical waters. But as a result of some tentative first steps by the Omani government to encourage tourism, both of these pleasures are now available—an exciting prospect for those who enjoy exploring "forgotten" lands and unknown seas.

Strategically located on the eastern edge of the Arabian Peninsula, this small country was renown in ancient times for its frankincense and its trading ports. Veiled for centuries, Oman remains virtually unknown to the modern world. Although this is changing, it is still possible to catch the first wave of underwater exploration and discover the treasures which lie beneath Oman's seas.

And what treasures they are! An abundance of marine life exists here and many new species of fish are being discovered. Several factors, some unusual, contribute to make these waters fertile. Coral reefs are an important factor. Oman has a thousand miles of coastline facing the Gulf of Oman in the north and the Arabian Sea in the south. Rugged mountains plunge into the warm, clear seas to form the base for colorful coral reefs.

Coral reefs and good water are only parts of the equation. The very southern

tip of this desert country catches the southwest monsoon from April to September. The monsoon brings upswellings of cold nutrient-rich water and an abundance of plant life. As a result, off the coast of Dhofar in the south, a diver can see kelp and coral growing side-by-side.

Scientists think this ocean plant life, usually microscopic in size, is responsible for the large numbers of fish found in Oman's waters. All along the coast, the ocean literally swarms with life. On his return from a field trip to southern Oman, one American marine biologist reported he had seen schools of sardines so thick he felt he could have walked on them. And more than one diver has reported seeing the night creatures become active during the day due solely to an immense school of fish blocking the sun for several minutes while passing near the surface.

However, the abundance of marine life is not the only reason to dive here. Also remarkable is the size of the reef fish in these waters. Traditionally, the reefs in Oman are not over-exploited, and spearfishing is illegal. As a result, one can see more mature angelfish and tangs. Even the butterflies manage to grow to a healthy size.

Recently, on a 90-foot dive to a tugboat wreck, I saw a pennant butterfly fish that looked a good foot and a half long. (My husband remains sceptical of this.) I also saw an even bigger parrot fish and shark-size groupers. Of course, size isn't everything. Narrowing my focus, I saw tiny pink and purple anthias hovering

over soft red coral and a seahorse whose tail anchored him to a rope leading off the tugboat.

For those who like to measure feet instead of inches, Oman has plenty to offer. Tuna, mackerel, kingfish, sharks, dolphins, and huge parrot fish and groupers and turtles are in abundance. Oman is a major breeding ground for green turtles, hawksbills, and loggerheads—all endangered species. The sport diver can count on seeing large marine animals and plenty of them.

One of our favorite dive sites is Fahal Island, a barren chunk of rock three miles off the coast of Muscat, the capital city of Oman. It is here we go to see large, pelagic triggerfish. These triggers hollow out craters in the sand to lay their eggs and remain to protect the nests. Though these pale, deep-bodied fish tend to be shy of divers, some triggers are not.

A black-purplish body and red fangs make the redtooth triggerfish, a species common here, resemble Dracula. When I see these vampires nesting, I give them wide berth. With fins flaring and body quivering, they will charge at divers who swim too near their nest, sometimes taking a nip. For those who like to interact with fish, these triggers provide quite a thrill. My sentiments, however, are with a local who said, "If those guys were six feet long, I wouldn't go near the water."

Some other sites at Fahal Island are Bill's Bumps, where you have to push away the hungry angelfish, and Shallow Reef (oddly named since it starts at 60

Marcia Stone has been diving the waters of Oman with her photographer husband John Hoover for the past two years.

feet), where I first saw a big bush of yellow-branched black coral. All my favorite fish are here in profusion: Arabian and redtail butterflies, emperor and yellowbar angels, Sohal tangs and yellowtail surgeonfish, broomtail wrasses, and Picasso triggers. Some of these beauties are unique to the coast of Arabia. The Arabian butterfly, for instance, surely one of the most beautiful fish in the sea, is seen only in this part of the world.

Though certainly not unique to this area, the cuttlefish is quite common. Related to squid and octopus, their changing colors make them fun to watch. And during mating season, close-up observations are especially easy. My dive buddy and I once saw a pair of cuttlefish who would not move from a particular rock. After five minutes of patiently waiting, they glided away, and we were rewarded with a view of glistening white cuttlefish eggs hidden deep in a small crack of the rock.

Later in the dive, we sailed over a wall looking out into the clear depths of the Gulf. We were both hoping to get a glimpse of a whale shark which frequents this island dive site. But we had to settle for a hundred jacks and a big, lonely grouper. Coming back onto the reef, though, we were further compensated. Tucked under a ledge, apparently fast asleep, were two black stingrays as large as grandmother's dining room table. Only the slightest ruffling of their circular fins gave a clue they knew we were there.

A wealth of marine life, both common and uncommon, is not the only attraction of Oman. These unexplored waters are also a haven for new species of fish. Until 1970 when money from oil started flowing in and a new, forward-looking sultan came to power, Oman was virtually isolated from the scientific community. Since then, scientists from all fields have come to study Oman's flora and fauna. This year a new species of butterfly fish, the first to be discovered in shallow water in the Indian Ocean since 1923, was found in Omani waters.



Mountain watchtowers guard Muscat harbor.

## Travel Tips

If you prompt her, Cheryl Jones, Recreation Director at the Oman Sheraton Hotel, will tell you about her ride on the dorsal fin of a whale shark. She had a novice diver with her (four dives under his weight belt) who also got to ride the pectoral fin. The Sheraton was the first, and still only, hotel in the area to offer scuba courses and compression facilities.

According to Cheryl, diving in Oman has a way to go to reach the commercial levels found in the Caribbean.



Christian Cemetery Cove is a popular dive site. Land access to the burial place of missionaries and sailors is only by rope down the cliff.

bean and Australia. So far, the only diver-tourists have been small groups from the Gulf States and individuals from Europe. The only Americans who have dived in Oman are the expatriates who live here, a few traveling businessmen, and the occasional group of sailors on their way to the Strait of Hormuz. So there is plenty of elbow room under water.

To dive Oman, the first step is to get a visa, which may take up to three weeks. A visa is only available through a sponsor, such as the Sheraton, in Oman. The cost is \$25. Rooms at the Sheraton go for \$114 double and \$98 single. Discounted rates are available for groups and extended stays. The cost of diving is \$18 per dive (half that for snorkeling) with tank and weights. Second and third dives of the day are 10 percent less. If you don't bring your own equipment, the cost is \$32 per dive.

Cheryl recommends divers bring their own lights for night dives and

According to Jonathan Mee, curator of the Oman Aquarium, it is remarkable that three of the most commonly seen fishes in Oman, a goatfish, a chromis, and a fusilier, were only described in the last five years. Mee also added that several other fish currently show potential as being new species.



clamations of "That's not supposed to be here," or more often, "What's that?" These comments come from longtime fish watchers. The fact is, this is virgin diving territory, and it will be a long time before anyone knows for sure what is here and what is not.

Meanwhile, divers do their best to add to the knowledge of underwater life by reporting their findings. There is, however, a limitation placed upon divers. Although diving in Oman is a year-round sport, as in most other parts of the world, it cannot be said to be an everyday sport. Those same conditions that support abundant and interesting underwater life can also force divers to sit on the beach. At these times, the usually calm Gulf of Oman will become rough enough to send waves crashing against the cliffs. Rough seas and the effects from the monsoon in the south can also make visibility and water temperature vary considerably. At times, underwater visibility can drop from a high of 100 feet one day to a mere 10 feet the next.

The weather patterns also affect reef

says an alternative air source is mandatory for diving with the Sheraton. The Sheraton has two boats: a 25-foot open hull which carries 8 divers, and a new boat with a cabin which handles 6 divers. Stag jackets and regulators are available for rent.

You may contact Cheryl Jones or Paul Morral, a PADI diving instructor, at P.O. Box 6260, Ruwi, Sultanate of Oman. Phone: 799899. Telex: 3353 Sheraton ON. Fax: 795791.

Since the Sheraton is a landlocked hotel in the heart of the business district, you may prefer to stay somewhere near the ocean while using the Sheraton as your dive base. Three hotels with beautiful beach locations are the Gulf Hotel, the Muscat Intercontinental, and the Al Bustan Palace Hotel. The Gulf and Intercon are very nice, but for a big treat (and about \$25 more per night) you can stay at the Al Bustan which looks like a sheik's pleasure palace

with its fountains and marble floors. Rates at the Al Bustan are \$153 for a single and \$175 for a double. Their addresses are: Gulf Hotel, P.O. Box 4455, Ruwi, Oman. Phone: 560100. Telex: 5416 GULFOTEL ON; Intercontinental Hotel, P.O. Box 7398, Mutrah, Oman. Phone: 600500. Telex: 5491 IHCMCT ON; Al Bustan Palace Hotel, P.O. Box 8998. Phone: 740200. Fax: 799600.

Several airlines fly into Oman, but none directly from the U.S. The two airlines with the most frequent flights are Gulf Air in conjunction with TWA and British Airways, both of which connect to the U.S. via London.

Once here, you will find plenty to do during your non-diving hours. If you like to shop for antique guns and jewelry or perhaps Aladdin's lamp, the twisted alleys of the souk (marketplace) will accommodate you.

Or if you like exploring further afield, you might try the extreme north and south of Oman's borders.

For those who dream of discovering a new fish themselves, the good news is that scientific study here has only just begun. Often, my husband, who works at the Oman Marine Science Center, gets together with colleagues and other diving enthusiasts to compare slides of recent dives. Frequently, there are ex-

ceptions of the water can go up to almost 90 degrees.

First-time visitors to Oman are always struck by the stark beauty of its rugged mountains which separate the coast and the dry plains of the interior. Being a Middle Eastern country, the desert is expected, but the mountains are a surprise. Tucked between the mountains are the Omani fishing villages with the simple, whitewashed buildings in the Arabic style. Beyond these small villages are great expanses of harsh terrain. To get to the more remote areas where we sometimes dive, we often drive past sand dunes over mountains, and through silt pans which makes for an arduous trip. However, at the end of the ride, we have our reward—the immense silence of the desert and the luxury of pitching our tent wherever we please. This sparsely populated country affords ample and varied camp sites.

With all this beauty known to so few, it is tempting to selfishly keep it that way. But in fact, plans are already being considered by the government to encourage and accommodate many new

A flight north to Musandam will allow you to rent a fishing boat for a snorkel in the Strait of Hormuz. That should impress your friends! A flight south to Salalah during the summer will let you catch the monsoon and experience misty green mountains surrounded by a forbidding desert.

For exploration around the capital area, you can go wadi-bashing, a favorite sport of the expatriates. It involves renting a 4-wheel drive and bashing it through the wadis (canyons) and across the desert. Your U.S. license is good here for such high jinks.

A more quiet activity might be bird-watching. According to ornithologist Rolf Jensen, Oman is a temporary home to a great variety of unusual migratory birds. Due to the sparse vegetation, these birds can be seen in greater than usual concentrations, especially at the local sewage ponds where birds of different feathers must flock together.

development. Generally, the coral reefs in Oman are not extensive. The cold upwellings from the monsoon which are accompanied by algae growth have an adverse effect on coral growth. Water temperature can drop below 60 degrees, which is fatal to coral reefs, not to mention chilling to divers. On the other

visitors. As a far-away and unknown land with a fruitful and unexplored sea, Oman is sure to appeal to adventurous divers seeking an exotic locale. And, for early arrivals—those who come before Oman opens fully to tourism—there will be the added satisfaction and thrill of being a diving pioneer.

\$

# SCUBAPRO Trivia Quiz

BY E.R. CROSS

Illustration by Nick Fain

**T**hirty years ago, in the summer of 1955, the County of Los Angeles Department of Parks and Recreation selected six professionals experienced in diving and teaching to serve as a Technical Advisory Committee in the development of an advanced diver training program. The six were also the instructors who conducted the classes and supervised the dive trials in these first-ever classes that eventually became known as the LA County Instructor Certification Course. Questions for this Trivia Quiz are taken from the 100 questions the first class of students were asked to answer.

Give yourself five points for each correct answer.

**1.** When selecting certain diving equipment a proper fit is of prime importance. True or False.

**2.** Nitrogen is essential to life. True or False.

**3.** During a dive in sea water, pressure increases \_\_\_\_ pounds per square inch for every \_\_\_\_ feet of depth.

**4.** One of the following animals is frequently found in sandy areas of shallow water and sometimes causes injury to divers wading into the water during a beach dive: (a) bat ray, (b) manta ray, (c) sting ray, or (d) leopard ray.

**5.** In 1955, the float of choice was a patched-up inner-tube from the family jalopy. Substitute "float" for inner-tube and see if you can earn five more points. In a beach dive when going out through a heavy surf, the "tube" should be: (select one) (a) under the diver, (b) pushed ahead by the diver, (c) trailed behind the diver, or (d) left on the beach.

**6.** The recommended way to help prevent decompression sickness (the bends) is to: (a) plan the dive with decompression stops, (b) never ascend faster than 25 feet per minute, (c) never exceed the no decompression depth/time tables, or (d) always take an extra tank of air on the dive.

**7.** What is the physical and chemical process called by which an organism (a diver) supplies its cells and tissues with the oxygen needed for metabolism and relieves them of the carbon dioxide generated in the process?

**8.** Match the instruments in the left column with what they measure in the right column.

- |                     |                             |
|---------------------|-----------------------------|
| 1. Thermometer      | a. Relative humidity of air |
| 2. Barometer        | b. Wind speed or force      |
| 3. Pneumofathometer | c. Atmospheric pressure     |
| 4. Hygrometer       | d. Temperature              |
| 5. Anemometer       | e. Water depth              |

**9.** Research has shown the majority of diving accidents are due to lack of adequate diving education. True or False.

**10.** Which of the following is not a symptom of carbon dioxide poisoning? (a) headache, (b) nausea, (c) dizziness, or (d) nose bleed.

**11.** LA County student-instructors also had to learn about diving physiology. Match the words in left column with what they describe in right column.

- |                     |  |
|---------------------|--|
| 1. Hyperbaric       | a. Heavy breathing with an increase in depth of inhalation               |
| 2. Hypercapnia      | b. Designation of a pressure chamber sometimes used in diving operations |
| 3. Hyperventilation | c. An increase in rate and/or volume of respiration                      |
| 4. Hyperventilation | d. Excess CO <sub>2</sub> in body tissues                                |

**12.** Try this one on for (extra) size. A diver with excessive fat tissue is believed more likely to develop bends symptoms. True or False.

**13.** When a diver using scuba ascends from a dive, gasses in the air spaces expands in accordance with \_\_\_\_\_ law.

**14.** Which of the following diver disabilities is not related to gas expansion during ascent? (a) gas embolism, (b) nitrogen narcosis, (c) pneumothorax, or (d) mediastinal emphysema.

**15.** Carbon monoxide (CO) is a natural product of respiration. True or False.

**16.** For beach goers and beach divers this question should be easy. Very fine sand on a flat upper beach would indicate what type of surf conditions? (a) heavy surf, (b) very weak surf, (c) rip currents, or (d) pounding surf.

**17.** Cold water divers should have no trouble with this question. Which one of these two conditions is most likely to be encountered by divers? (a) hyperthermia or (b) hypothermia.

**18.** Knowledge of weather and weather indicators is important to safe diving. The early instructors were required to know their weather. Cloud types are an indication of what the weather is and might become. For five points match cloud types on the left with their descriptions.

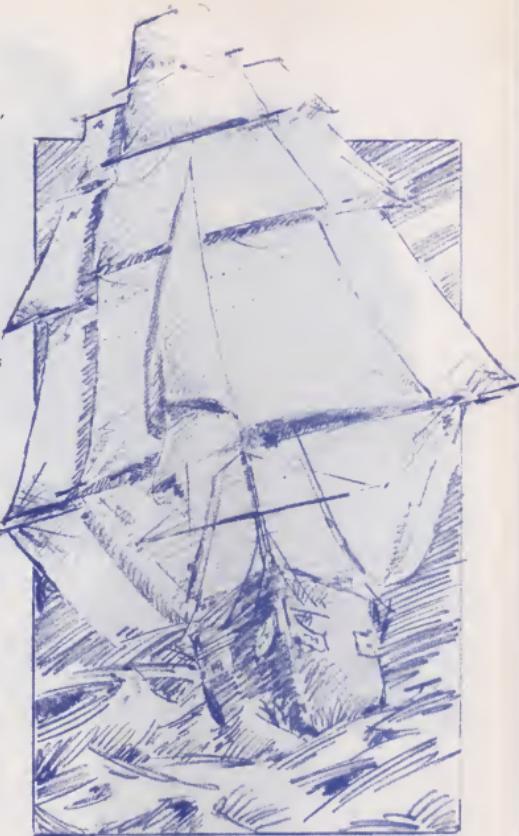
- |                 |   |
|-----------------|---|
| 1. Cirrus       | a. Low, gray, layered.<br>Uniform base. May produce drizzle.                              |
| 2. Cumulus      | b. High, filamentous,<br>white, patchy. Composed of ice crystals.                         |
| 3. Cumulonimbus | c. Low, small, dome-shaped, fair-weather clouds.  |
| 4. Stratus      | d. Towering, anvil-shaped.<br>Can produce lightning, thunder, high winds, and heavy rain. |

**19.** One class of the phylum mollusca are the Cephalopoda; i.e., the octopus, squids, and cuttlefish. Match the names of the Cephalopoda in the left column with one of their principle characteristics in the right column.

- |               |  |
|---------------|--|
| 1. Octopus    | a. Has 10 arms and a hard internal shell or plate                |
| 2. Squid      | b. Has eight arms and no internal shell or plate                 |
| 3. Cuttlefish | c. Has ten arms and a very small, sometimes soft, internal plate |

**20.** Divers sometimes encounter abrupt changes in the temperature of the water during a dive. This abrupt change in temperature is called a \_\_\_\_\_.

You may be one of us oldsters who took part in the LA County Instructor Training Program. Or you may have



recently earned your C-Card. In either case you should have had little trouble with the quiz. Things haven't changed much in all those years.

Compare these questions with those you were asked to answer when you were tested for your C-Card. Keep in mind, SCUBAPRO reserves the right to be wrong. If you think we are wrong, let us know. Also take the time and have the fun of sending in your own Trivia Quiz questions. Are there subjects you would like to see covered? If, without looking at the answers, you scored: 0 to 5, You need to read some diving texts.

6 to 10, Not bad. But don't try for an instructor rating. 11 to 15, Avoid "in depth" discussions but continue to have fun diving.

16 to 20, Exceptional. You are ready to go back 35 years to try for an LA County Instructor rating.

Answers on page 78.  
See you next issue.



BY JONI DAHLSTROM

Most of us spend a big, big chunk of our lives plugging away at the old nine to five. We patiently wait for those golden years when every day is Saturday. Ah, retirement, a time to sleep late, sit in the sun, and go diving.

But isn't diving supposed to be sort of a macho, youth-oriented, trendy sport? Isn't it all about heavy gear, long swims, scary physics—all that and sharks to boot? It just doesn't seem like the sort of thing for—well—older people.

Hold it right there folks, you've got it all wrong and it is never too late to learn to dive.

Lighter, well-designed dive gear and comprehensive classes, which made diving a reality for youthful couch potatoes, also opened the ocean world

## Good-Bye

to older divers. In the last two years, PADI alone has certified more than 536 divers age 65 and over. That's a substantial increase over previous years, and points to one simple fact: retired people are seriously taking to diving as an activity that they too can enjoy.

"Diving is not for the young alone," says John E. "Doc" Staunch. "There are a lot of people out there who are yearning to find something to do other than sit in a rocking chair."

Doc speaks from experience. He is a course instructor for PADI, a level which only 2 percent of all certified instructors ever attain. At his dive shop in Manassas, Virginia, Doc teaches classes and arranges trips for divers of all ages. Through his shop, he will run more than 60 dive trips in 1990. He also runs a successful medical practice.

Doc is a busy guy; he is also 69 years old.

Doc took up diving five years ago, largely for utilitarian reasons. After disabling his yacht at sea and spending hours unwrapping a line wound round his prop, Doc decided he'd better learn scuba, just in case accidents like that occurred again.

*The writing/photography team of Joni Dahlstrom and Adam Zetter is based in Santa Barbara, Calif.*

*Photos by Adam Zetter*

*Retirees are discovering diving is fun, easy, and definitely not just for the young.*

# Bocci

"I went into it for pretty practical reasons," he recalls. "One thing led to another and now I am a master diver and completely engulfed in the whole thing. I went out to become an instructor, I guess because it was there. I really like to teach. Now I teach about 10 different specialties."

Most people get into diving because of a friend's interest or from television programs and magazine articles about the undersea world. Something clicks, and they decide to go do it. Divers who take up the sport in retirement are no different.

"I have taught a lot of people who were retired," says Dan Lennon, an instructor in California. "They like the sport because it is good exercise and a chance to get away from phones and all the junk you have to deal with in the city. They have the time and desire to get out of the house."

"I still stay in touch with one gentleman I taught a few years ago. He retired for two reasons; he was 68 years old, and he had also just had a quadruple bypass. He definitely had to have medical clearance, but he held up great in a regular class. I offered to teach him privately, but he wanted to have a good time and meet people. He had so much fun and he was so motivating to the



*Wyche Caldwell, 75, takes a refresher course prior to a trip to the Caribbean.*

other people in the class. He was just so up on life. Even now, he enjoys the sport so much, he is just like a little kid when he talks about diving, even if it is just a weekend trip to Catalina. I like to teach people who feel that way."

For many older divers, diving was a dream they had had for many years, but never the time to make it come true. Wyche Caldwell, a newly certified diver who is 75 years old, decided, "I'd better get out there and do it myself. I always wanted to, and it was about time. Adventure is the idea of it. Plus some bragging rights with my friends."

Now that there are enough divers over 65 to keep statistics on, the certification agencies are finding they have fewer accidents than younger divers. The only explanation for this appears to be greater caution and adherence to safety rules by older divers as a group. But another fact the stats make clear is that older divers are at no greater risk than anyone else.

"The baby boomers are the biggest

group of divers," says Barry Shuster, the associate editor for the PADI manual, *Undersea Journal*. "As the median age (of the population) slips up, you find more and more people in their forties and fifties in classes. There isn't any reason why they shouldn't be out there diving with everyone else."

Barry points out that all divers over 45 should have a medical examination before beginning to dive. It isn't absolutely required, but strongly encouraged, especially for those with a high cholesterol count, a family history of heart attack and stroke, and those who smoke. These people are considered at higher risk at any age and they should have a complete physical by a doctor familiar with medical aspects of diving.

Diving instructors say that older divers pass exactly the same skills test as all other divers. They don't treat retired divers differently. They also find retired divers are a great addition to the classroom because of their greater attention and motivation. Their enthusiasm



creates a good atmosphere for the entire class.

For those who think diving is a pretty demanding sport, Wyche points out that the classes and gear present no special problems for anyone who is reasonably fit. Classes are structured so students learn skills one step at a time, and fully master each stage before moving to the next. Wyche has a long-term back problem. At first he thought it might be difficult for him to carry his own tanks and gear, but as it turned out, he can handle the equipment easily.

"The only hard part has been buoyancy control," Wyche states. "Sometimes I feel like a Cartesian diver, bobbing all over the place."

"A Cartesian diver is an old physics experiment. You place a neutrally buoyant object in a bottle filled with water, and then cork it tightly. When you squeeze the bottle, the object sinks, and will bounce all over the place. Sometimes when I'm practicing in the pool, all I think about is that I feel like a Cartesian diver. But, then it all comes together and the serenity is just so wonderful."

The truth is, anyone who can pass the swimming skills test can become a diver. "The only thing I notice is that different about older people, is that they get a lot more excited. Truthfully, they really get off on it, it's like a drug. And I get off on that," Dan says.

Many dive shops are now catering to older clients and those who are nervous

about the physical effort required for the sport by offering Discover Scuba Courses. Some shops even encourage potential divers to jump into the instruction pool to experience using a mask, snorkel, and fins. Water is like a litmus test for divers. Anyone who has fun playing in a pool or at the beach can hardly resist the chance to eventually make a real dive.

"The adventure and idea of travel is great," according to Wyche. "Of course, I'm really looking forward to the gorgeous scenery that should be down there on my first Caribbean dive. My ultimate goal is to dive the Great Barrier Reef. If I get good enough, I hope to do a little wreck diving. I don't worry about danger. I know if I have proper equipment that has been checked out, I'm not going to have problems. But, even if I did, I'm not going to panic. That's the important thing."

One thing many divers who take up the sport later in life have in common is the drive to try something new. They are ready to learn and experiment, a gift many people lose by about age 10. But these newly certified divers have managed to hold on to it and they don't quit. They seem to have a good attitude toward life.

Take Wyche for example. He worked at and owned companies in the computing and aerospace industry. He has many patents in his name from pioneering work in punch card computing. He swims, bikes, and plays tennis, and has four children and a grandchild.

Doc was an instructor pilot for the Air Force, where he trained cadets to fly. He has done work and research in medical nutrition, he was an assistant professor at Georgetown University Medical School, and an instructor at University of Michigan Medical School. As he said, he loves to teach. He skis, plays golf, and is thinking about sky diving.

And as every diver knows, this is a sport that is great for developing friendships and camaraderie. Retired divers find it a great way to spend time with their children. When Doc took up diving, he got his whole family into the act. He has two daughters and a son of his own, plus four adopted boys. They all dive.

"We all go places together and have a great time on dive trips, as a family," he says. "You know, I was at my 50th high school reunion last September, and they were all like, 'you scuba dive?' You see, I wore my jacket with the patches all over it. They just couldn't believe it, and you wouldn't believe the looks I was getting. But, it's a lot of fun, they just don't know what they are missing. My goal is to take a dive when I'm a hundred years old. And I know I'll make it."

S

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*With its sister island Trinidad, Tobago is the southernmost of the Caribbean Islands.*

BY D. HOLDEN BAILEY

# Last Stop—

I was drawn into the pet shop by the melodious calls of a hundred tropical birds. I joined the other customers gazing longingly at the cute but expensive puppies. The puppies, in turn, stared back at a line of smiling faces.

Suddenly, I was distracted by the wonderous fragrance of a perfume you only find on the classiest, most beautiful

women. Turning, I focused on its source, a short and very slim woman with shoulder-length blond hair. She stood with her back to me. As I admired her tanned, shapely calves she suddenly turned around. Before I could look away she smiled, her big brown eyes lighting up in recognition as she started walking toward me.

That's when I woke up.

After a moment of disappointed confusion, I realized where I was. The singing birds were in the trees outside my window, the perfume was coming from

the white flowers of a nearby myrtle shrub. My disappointment slowly faded as I lay in bed and listened to the gentle surf splashing on the beach only 20 steps away. I remember wondering how long the sea had been seemingly trying to grab on to the beach in an attempt to pull itself ashore, only to lose its grip in the slipping sand and fall back, time after time for eons.

I was considering going back to sleep and the dream I'd just left, but my watch reminded me that my ride would be here in an hour. A little reluctantly, I headed for the shower, after which I shaved on the front porch while watching the Caribbean go through its repertoire of blues in the early morning light.

I breakfasted on toast made from the homemade bread I'd bought the day before at the little restaurant in nearby Charlotteville, covering it liberally with locally produced guava jam. Still feeling hungry, I picked a banana off a nearby tree and ate it, marveling with each bite at how much tastier it was than the ones you buy at home.

Ten minutes of driving along a narrow, winding road up the steep hillside from Charlotteville to the crest of Tobago's backbone, then down the other side put me in Speyside. The route was very scenic, offering many splendid views from its vantage points. Redman, my driver from Paradise Sea Sports, told me along the way that we were going to be diving only about 10 minutes offshore, around the islands of Goat and Little Tobago. This side of the island was actually on the Atlantic, while the other faced the Caribbean. Redman said both sides were good for diving but they usually dived the Atlantic simply because it was closer to their shop.

Once at the shop, we suited up quickly and boarded our heavy fiberglass pirogue which was about 22 feet long. Motoring to our first dives site, Smokey (it seems that nearly every local man has a nickname), our divemaster, explained we hadn't dived the day before because their boat was on shore for repairs and the boat they had to borrow didn't show up on time. To the residents of Tobago, time is merely something that comes and goes, not a force which controls lives and events.

A view of Little Tobago as seen from Speyside. Diver, opposite, is framed by deep-water sea fans and an orange encrusting sponge.



# Dream Island



A yellow relative of the bird of paradise flower; bananas with the plant's flower on the bottom right.



colorful fish such as French angels, scrawled filefish, green triggerfish, and honeycomb cowfish lazily swam through fields of soft gorgonians and around yellow and purple tube sponges.



Diver approaches a school of goatfish.

Some of the divers took a thrill ride through *The Chute*, a rift between two vertical rock walls where the current picks up enough speed to whisk you quickly through and out the other side. I was so engrossed in following a large pair of French angels around that I completely forgot about it.

I was amazed by the lush growth of deep-water sea fans which were scattered liberally around the reef. I had never seen them grow at this relatively shallow depth of 40 to 50 feet. Some of the sponge species were new to me, and

later, I couldn't even find them in my books.

Smokey also introduced us to other dive sites with names like *Black Jack Wall* and *Little Tobago Drift*; each one carpeted with a mind-boggling variety of riotously-colored corals and sponges. Tropical fish were equally represented. In some spots, hundreds of bicolor damselfish hovered over the reef, each defending its own little territory against the encroachment of all, regardless of size. To them, divers were merely another huge fish to chase away. Large,

My last day of diving was with Tobago Dive Experience, operating out of the Blue Waters Inn in Speyside. Aboard their boat, a 32-foot pirogue with a bimini top, divemaster Derek told us we would be diving at a spot called *The Bookends*, which was around two cone-shaped rocks that jutted out of the water. My diving buddy, Najuma, said it also had a more interesting name. When a Canadian beauty queen had visited the island, someone noticing the shape of the rocks closely resembled parts of her anatomy promptly dubbed

the site "Miss Ottawa."

The beauty of Miss Ottawa would have undoubtedly faced stiff competition from the beauty we encountered below the rocks. I barely had time to orient myself after a backward roll en-

of silt along the bottom. Swimming over, I saw a school of brightly-colored spotted goatfish emerge from the cloud. We stayed with them for a while, watching them root in the sand for food which they were able to locate with their sen-

sitive whiskers. Along the way, we saw a longsnout butterfly fish, also another first for me, and the ever-present French angels.

Glancing ahead, I noticed Derek frantically pointing to something below. From out of the blue void emerged a 6-foot nurse shark swimming lazily along at 90 feet. Slow sweeps of his enormous tail propelled him effortlessly forward. Swimming as hard as I could, I was able to keep up long enough for one quick shot. As the flash fired, the shark zipped away and was soon out of sight.

After lunch at Jemma's, a small beachside restaurant which features local dishes served at a table in a tree house right over the water, we went to a site called *The Drain*. We had encountered unusually large formations of giant brain coral on every dive so far, but the one we found here topped them all. It was at least 12 to 15 feet in diameter. I had to keep backing up to get it all in the viewfinder of my 15mm lens.

Farther along the steeply sloping reef we came upon a garden of clumps of yellow tube sponge which looked like a kingdom of miniature, golden-spired castles. Queen angels glided from castle to castle as if searching for a philandering king. A school of cotton-wicks added their colors to a reef which really didn't need any help. At times, I found myself spinning in circles like a top, trying to decide what to photograph first.

After several days of diving Tobago, I had to admit the diving was much better than I had expected. In fact, I believe it could honestly be rated as equal to any of the top spots in the Caribbean. Some destinations have beautiful reefs but few fish, while others have many fish but not much reef, but Tobago has it all. According to local divers, the diving is just as good on the northwest side of Tobago (Speyside is on the northeast side), while the south end is similar, but not as good. On my dives, I had seen visibility as low as 40 feet and as good as 80—and this was in the middle of the rainy season. The water temperature was a steady 82 degrees while the air temperatures hovered around 80 degrees each day.

After my last dive I joined Pat Turpin for a tour of Tobago's rain forest. As we wound our way up the slope of the mountain, I learned that the residents of Tobago are working hard to build the island's small tourist industry, while working equally hard to preserve its ecology. They prefer visitors who share a respect for its fragility, rather than ones who tramp noisily through the forests leaving beer cans in their wake.

Along the way Pat pointed out some of the colorful birds that called Tobago

French angelfish and land crabs are abundant in Tobago



*Lush growths of deep-water sea fans grew at only 40 to 50 feet.*

try when I found we were surrounded by a school of large tarpon. By the time I got my camera ready, I only had time for one "grab shot" as they moved off. Before I could even recover from this experience, a larger school of crevalle jacks swam overhead, barely beneath the surface. Not bad for the first 60 seconds of a dive.

Descending through clouds of brown chromis, we drifted over another marvelous reef, just going with the flow. When I looked around to locate Na-juma, I saw her following a small cloud

home, giving them names like king of the woods, copper-rumped hummingbird, sugar eaters, and crested oropendola. We could hear the raucous calls of parrots in nearby trees.

Pat was also quite an authority on plant life, which she demonstrated by naming many of the trees and flowers we passed. Her passion was evident when, finding a tree she didn't recognize, she stopped and took a sample of its leaves to help her identify it later, clutching them like a newly discovered treasure. She explained that a forestry officer she knew, Renson Jack, could probably identify it.

Our tour was regrettably cut short by a torrential downpour which reminded me that this was the rainy season. As darkness fell, we crept home through

## Travel Tips

**D**iving on Tobago, while very good during the rainy season, gets even better in the dry season, with visibility averaging 80 to 100 feet or better. Visibility during the rainy season is usually 40 to 60 feet, but can be less after unusually hard rains. Water temperatures range from the high 70s to the low 80s throughout the year. Most dives are drift dives, with the boat following the divers' bubbles. Currents are usually slight to moderate, but can get stronger with certain tide conditions. Most dive sites are in the 40- to 50-foot range. The reef bottoms out at about 90 feet, where white sand meets the reef.

Dead coral, mostly elkhorn, is found in a few shallow water areas, a result of the hurricane of 1963, the only one to hit Tobago directly in this century. Shore diving off Tobago is available, but the reef here is relatively barren, probably due to run-off from the island's many streams.

Diving is also available at the south end of the island, where most of the hotels and nightlife is located, but it's not as good as the Speyside/Charlotteville area at the north end. Trinidad, Tobago's highly industrialized sister island, is only 12 minutes away by air, but the diving is completely different. Local divers say pelagics are frequently seen there, but the reefs are virtually nonexistent. Most divers from Trinidad do their diving on Tobago.

### Tobago Weather

Year-round daytime temperature is 70 to 90 degrees. The rainy season is usually July to January, but may start as early as May or end as early as November. During this period, it usually rains intermittently, seldom all day. Sometimes there is no rain for several weeks at a time. A plus during the rainy season is the lush green of the tropical vegetation, and its profusion of brilliantly-hued flowers. A lot of the green turns to

brown during the dry season when very little rain falls. The seas are generally flat, with better visibility during the dry season.

### Land Attractions

For those who prefer the typical resort hotel vacation—golf, tennis, sunbathing, and nightlife with calypso, reggae, and steel bands—with diving as a secondary activity, there are several modern hotels at the more populous south end of the island, in the Scarborough area, which offer these activities. A few visitors choose to stay at this end of the island and make the two-hour drive along the Windward Road to dive in the north. It is a tortuous but very scenic journey along the coastline for the 26-mile length of the island. The sandy, palm-lined beaches, separated by tiny villages with names like Betsy's Choice, Hope, and Bella Garden, make the trip very enjoyable and it should be experienced at least once by everyone, but twice a day is a little too much for most divers.

For nature lovers, Tobago has much to offer. Clean, picture-perfect, secluded beaches are scattered all around the island. The rain forest, one of the earliest protected ones in the world, has several trails for hikers to enjoy, either on their own or with a local guide. Over 160 species of birds, many of them exotic and flamboyantly colorful, can be found at the north end of Tobago and on the nearby uninhabited island of Little Tobago. Little Tobago has been designated a bird sanctuary and is a nesting place for several species of sea birds. A transplanted wonder, the bird of paradise, used to be seen frequently here but has been seen only rarely since the hurricane of 1963.

### Tour Guides

**Pat Turpin** can be reached at the Man-O-War Bay Cottages in Charlotteville. She leads groups of up to 10 people on bird-watching and nature field trips to various spots, including the rain forest, for about \$15 U.S. per person. Phone: (809) 660-4327.

**Renson Jack**, an officer of the Forestry Division, runs similar tours for a similar price. A popular one is a visit to his house deep in the rain



the deluge, gingerly working our way around small landslides which had slipped down the nearly vertical slopes along the roadside. Back at my cottage, I packed my still-damp dive gear while I listened to the rain beat against the tin roof, wishing I could stay for just one more day. **S**

forest. Reached only by a long gravel road which winds along pristine streams, it is surrounded by fruit trees and exotic flowers which he has planted to attract birds. Due to this and its remote location, it's probably the best place on the island for bird-watching. Renson can be reached through Pat Turpin.

**David Rooks**, a four-time president of the Field Naturalist Club of Trinidad & Tobago, does tours to the rain forest and to Little Tobago Island. Phone: (809) 639-4276.

#### Lodging

**Man-O-War Bay Cottages** is situated on a 1,000-acre cocoa plantation, surrounded by banana, breadfruit, golden apple, oranges, and almond trees, as well as a large variety of fragrant, exotic flowers. A true nature lover will be as happy here as a hermit crab with a new shell. Located on a perfect beach, just a short stroll from the tiny fishing village of Charlotteville, it features airy cottages ranging from the 1-2 person Sugarshack, up to ones with four bedrooms. Each has a kitchen, allowing guests to cook their own meals or to hire a cook who specializes in local dishes to come in and prepare them at a cost of about \$10 per day for two meals. A tiny restaurant which prepares delicious local specialties, The Bay Style, is located in Charlotteville. Daily room rates start at \$35 U.S. per day. Phone: (809) 660-4327.

**Blue Waters Inn** is a more conventional, but still casual hotel only 10 steps from the ocean in Speyside, but from the water you can barely see it. At first glance it seems to be only a sandy beach lined with huge seagrass trees. The inn has an open-air restaurant, featuring a nest of mocking birds in one corner of the ceiling, a bar, and a dive shop. Rates start at \$82 U.S. for a room for two people. Phone: (809) 660-4341.

**Crown Reef Hotel** is located at the south end of Tobago, at Storebay. This is a large modern hotel, complete with pool and tennis courts. In winter, a room for two people starts at \$130 U.S. per day. Rates drop off quite a bit in the off-season. Phone: (809) 639-8571.

**Turtle Beach** is another modern hotel, located five miles from Scarborough. Rates are similar to those

at the Crown Reef Hotel. Phone: (809) 639-2851.

#### Dive Operations

**Tobago Dive Experience** is located at the Blue Waters Inn, in Speyside. This shop offers one-tank dives, including all equipment for \$40 U.S. Professionally managed, it offers NAUI certification courses and has a modern, fully-equipped shop. Diving is from a roomy, 32-foot fiberglass boat with a bimini top. Contact Sean Robinson. Phone: (809) 639-4082 or (809) 660-4341.



**Paradise Sea Sports** is located in Speyside, on a picturesque, palm-shaded beach. It offers certification and resort courses, and also has a modern, well-stocked shop. Diving is from a large open pirogue which has a bimini top. Rates for 2-tank dives are \$45 U.S. Contact Bob Wagner. Phone: (809) 639-8545 or (809) 660-5206. Mr. Wagner also manages Caribbean Fanta-Seas, a Florida-based company which offers very attractive package trips to Tobago. For instance, 7 nights at the Man-O-War Bay Cottages, including air via BWIA from Miami, 10 dives, airport transfers, and hotel taxes and gratuities is \$755 U.S. per person, double-occupancy. A similar stay at the Blue Waters Inn, including all of the above plus breakfast and dinner goes for \$975 U.S. per person, double-occupancy. Prices are slightly higher in the high-season, Dec. 16 through April 15. Caribbean Fanta-Seas 3801 N. University Drive, Sunrise, FL 33351. Phone: (800) 277-3483 or in Florida (305) 748-9937.

#### General Information

The two-island Republic of Trinidad & Tobago is located just off the coast of northeastern Venezuela. In fact, it was part of the mainland of

Venezuela, according to geologists, until it broke away, ages ago.

**Required documents:** Passports for U.S. and Canadian citizens are not required, but proof of citizenship such as a birth certificate is necessary.

**Currency:** Trinidad & Tobago dollars are exchanged for U.S. dollars at a rate of \$4.25 T&T=\$1 U.S. Most places will accept U.S. currency but may not give the full rate. **Electricity:** 60 cycles, 110 volts, compatible with U.S. appliances.

**Rental Cars:** Available at Tobago Travel, at Store Bay, for as little as \$25 U.S. per day plus gas, which is about \$1 U.S. per gallon. Motor-scooters can be rented from Paradise Sea Sports for as little as \$12 U.S. per day.

**Time zone:** Eastern Standard Time, year-round.

**Departure tax:** BWIA collects \$5 U.S. for a security charge when leaving the U.S. A \$12.50 U.S. departure tax is collected when leaving Tobago.

**Customs:** At this writing, visitors have to clear customs upon arrival in Port of Spain, Trinidad. On a bad day, this can take two hours since they are very protective of the local industries. You will probably be required to list things such as cameras and videos, and they usually check this list upon your departure to make sure it leaves the country with you.

A new section of runway at the airport on Tobago was scheduled to open in December, which will allow international flights to land directly here by the time you read this. Hopefully, this will alleviate the long customs delay.

**Airlines:** BWIA has several flights daily to Port of Spain, Trinidad from Miami and JFK, New York, with all flights having at least one stop. Baltimore and Toronto offer daily flights, also, with some being non-stop. Phone: (800) 327-7401.

Pan American Airlines has daily flights from New York and Miami. Phone: (800) 221-1111.

American Airlines also flies to Trinidad. Phone: (800) 433-7300.

BWIA has several flights daily from Port of Spain, Trinidad to Scarborough, Tobago.



*Spending the 4th of July on Rhode Island's Block Island offers historic landmarks and wrecks.*

Diver, above, secures anchor on wreck of the Grecian. Diver, at right, climbs aboard after visit to the Bass.



Photo by Bill Campbell

A view of Block Island.  
Photo courtesy of the  
Rhode Island Dept. of  
Economic Development.



# Block Party

BY CATHIE CUSH

**O**ne glimpse of Old Harbor is enough to throw any traveler back in time. But for divers, the vista of rambling Victorian hotels gives just a hint of what awaits beneath the waters surrounding Block Island, a small outcropping in the sea some 10 miles from the Rhode Island mainland. Within a short boat ride of the beach lie hundreds of wrecks, including wooden schooners, 19th-century passenger vessels, and several submarines.

The sun's hot as the boat pulls into Old Harbor on the first day of the Fourth of July weekend. Alternately I eye the flags flapping from the 50 or so boats tied up here and the drums of bait fermenting on the dock. I fervently hope the wind doesn't change. On a prior visit I learned to shun the smell of skaté. But on this particular day the winds are with us, and our group of a dozen or so sits on the deck of a Long Island charter boat sharing *apres-dive* appetizers of pepperoni and string cheese while trying to decide which of the island's outstanding restaurants to sample first.

Early that Saturday morning we had left Montauk, N.Y., at the easternmost end of Long Island. The Montauk ferry takes two hours to reach Block Island, but our charter managed to make the trip last nearly a day by stopping to dive along the way. We would return to Montauk Tuesday evening, after a long

weekend on the island.

Our first dive was on the *U.S.S. Bass* (SS-164), a 342-foot V-class submarine that was sunk intentionally and used as a sonar target during the last months of World War II. She sits upright in deep water about eight miles off the southeastern tip of Block Island. The sub rests on a bottom of hard sand and gravel that generally affords excellent visibility.

The water was clear, and I could see the wreck long before I hit the conning tower at about 120 feet. Still, light penetration is poor at this depth, and although my camera was loaded with fast film, it was too dark to take the available-light shots I had planned. Instead my buddy, Ed Soellner, and I went sightseeing along the anemone-covered hull. From the conning tower we headed astern, being careful to avoid the menacing masses of fishnet and monofilament that hang off the wreck. Lobster abounds here and elsewhere, but only Rhode Island residents may take them. Bright mustard and rust colored scorpionfish seem to be everywhere on this wreck and most of the others I've visited around Block Island. Brazen bergall attacked their reflections in the glass of our masks whenever we stopped swimming.

We swam around the stern, dropping down to see the propellers, then headed forward to return to the conning tower. Forward of this tall structure, the hull of the sub is sliced through. The bow lies about 50 feet away from the main section of wreckage. If the dive were shallower, we'd have had time to take a

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Cathie Cush is a NALI instructor and free-lance writer who often writes on wreck diving in the Northeast.

look, but our bottom time always ticks away much too fast at these depths, and we soon had to bid the Bass farewell.

We moved only a few miles to our next dive site, the freighter *Grecian*. Anchored above the wreck, we could easily see Block Island's picturesque southeast lighthouse just three miles away. I was tempted to take a swim, but seasons of dry-suit diving have spoiled me. The 64-degree surface temperature sounded a tad too chilly for this kid's skin. I had to content myself with lying on deck catching some rays and keeping one eye peeled for the fin of a *mola mola*, the large ocean sunfish that occasionally visits these waters.

Typical of many inshore wrecks up and down the East Coast, the *Grecian* is in pieces scattered across the sandy bottom. This steel vessel originally was designed as a passenger freighter, but was carrying only crew and general cargo when she went down in a collision with the *City of Chattanooga* on a foggy night in 1932. After much of her cargo was salvaged, her remains were dynamited as a hazard to navigation. Now, standing in about 95 feet of water, the ship's four boilers are the most prominent part of the wreck; most of the smaller pieces are low and half-buried in sand. Divers who know where to dig can sometimes find small brass padlocks bearing "U.S.N." and other souvenirs.

### The Ultimate Souvenir

Veteran dive boat captain Billy Palmer has the ultimate Block Island keepsake. It's not a postcard or a T-shirt or a piece of locally handcrafted pottery—not even a hat with fake seagull droppings.

Palmer's leaning against the railing of his boat, discussing the weather and possibilities for the next day's dive. Around his neck hangs the Iron Cross.

The real reason most divers come to Block Island, at least the first time, is to dive the U-853, a German submarine that sunk May 5, 1945, just seven miles east of Block Island. It's one of only a handful of U-boats in diveable depths, and the only one north of North Carolina's Outer Banks. U-853 lies nearly intact in approximately 130 feet of water, and it has definitely earned a place on the East Coast wreck diver's list of "must-sees." Palmer has been diving the wreck for more than 15 years. On one foray into the sub's interior, he returned with a soggy mass that turned out to be a leather jacket. The Iron Cross was wrapped inside the jacket.

Many histories have been written about the deadly Grey Wolves that prowled the coastline during both World Wars. The "853" was commissioned in 1943 and patrolled in the Baltic Sea and the North Atlantic about a year

before she was nearly sunk by Allied aircraft. The sub was returned to France for repairs. In February, 1945, she was sent to the waters off the coast of New England, where she would spend her final days under the command of the 24-year-old Oberleutnant Helmut Frömsdorff. Her end was ironic.

On the walk back to the boat we run into other divers coming from breakfast or the small grocery store where we pick up sandwiches and snacks for the day. This leisurely pace makes our four-day weekend seem like a Caribbean vacation.

A short ride puts us on the dive site,



Hatch opening in conning tower of U-853.

In the spring of 1945, Germany was losing the war in Europe. In the first days of May, Adolf Hitler's suicide was announced, and on May 4, Grand Admiral Karl Dönitz, the Führer's successor, ordered all U-boats to "stop all hostile action against Allied shipping." The U-853 apparently never received the order. Late in the afternoon of May 5, the U-boat attacked and sank the coal carrier *Black Point* northeast of Block Island, then went into hiding on the bottom. A few hours later she was pinpointed by the destroyer escort *Atheron*, one of several Navy and Coast Guard ships searching for the culprit. One of the 13 magnetic mines the *Atheron* deployed struck a mortal blow to the submarine, although the U.S. ships continued to attack the U-boat with depth charges until noon the following day.

Germany surrendered nine hours later.

### U-boats After Breakfast

Block Island could spoil divers from farther down the coast, who are used to getting up before first light in order to reach wrecks that may be 30 miles from the nearest inlet. Our boat ride will take us only about an hour, so we have plenty of time for a leisurely open-air breakfast at The Harborside Inn, one of the huge Victorian-era hotels on Water Street overlooking Old Harbor. Below us, transient boats of all shapes and sizes are moored gunnel-to-gunnel. Periodically one of the large black-and-white ferries pulls in, discharging hundreds of vacationers from Montauk or the Rhode Island mainland.

and before long we're descending through the murky thermocline to U-853.

Our boat is tied in near the sub's forward torpedo loading tube at about 110 feet. My dive partner Ed and I swim astern, past a large hole through which divers can enter the sub's tight interior, then past the conning tower. The outer part of the pressure hull has deteriorated, so we get a chance to see the pipes and framework that lie beneath the U-boat's "skin." A metallic sparkle in the sand catches my eye, but I'm disappointed to find that my "treasure" is only one of way too many beer and soda cans littering the bottom around the wreck.

We decide not to go inside to look for souvenirs. For one thing, it's a good idea to make a few dives *outside* a wreck before penetrating it. Besides, looking at Ed's shoulders, I think anyone who can pick up a set of twin tanks in each hand and walk down the dock without thinking twice about it is just too big to be poking around inside a submarine—especially in a bulky dry suit and wearing doubles. Actually we had decided long before, when we squeezed through tight passageways in the dry-docked U.S.S. *Torsk* in Baltimore, that entering a submarine is a risky business. For a look at the way the U-853 used to be, we can always visit the U-505, another IX-C class U-boat at Chicago's Museum of Science and Industry.

The tension on the anchor line as we ascend tells us the wind has gotten stronger and the seas rougher. The wind

dashes our hopes of visiting the *Black Point*, 853's last victim. Nor will we visit the L-8, an American sub used for target practice, that now lies in 110 feet of water between Block Island and Newport, R.I. Instead, with everyone back on board, we call it a day.

### A Submarine Smorgasbord

Weather permitting, Block Island offers something for divers of all skill levels. The U-boat is popular not only for its history, but because it is generally accessible no matter what the wind is doing. (But because it's in a shipping lane, the site can sometimes be put off limits by New England's legendary fogs.) On an earlier trip we spent a long and pleasant afternoon playing on the kelp-covered remains of the *Essex*, a freighter that ran aground just off the island's southeast light. Small crabs and lobsters hide in the metal framework scattered across a wide area in approximately 25 feet of clear water. Skates try to camouflage themselves in the sand, but take off like flying carpets when divers approach. Some pieces of wreckage rise 10 feet or so off the bottom, and it's probably one of the only wrecks outside the Caribbean where the mate can snorkel down to set the anchor.

Nearby is the tanker *Lighthorne*, which struck one of the many boulders that hide just beneath the surface around the island. It is also a shallow-water site where divers can spend virtually unlimited time. Like so many wrecks in the vicinity, the wrecking of the *Essex* and the *Lighthorne* was a boon to the islanders, who established salvage crews to retrieve any cargo left of value. Other maritime disasters left the

islanders with grimmer tasks. When the sidewheel steamer *Larchmont* collided with the schooner *Harry Knowlton* between Block Island and Watch Hill, R.I., in 1907, Block Islanders braved the icy winter weather to help the few survivors and to recover the bodies that washed ashore. Because the only copy of the passenger manifest went down with the ship, an exact casualty count was never established. The sinking of the *Larchmont* is acknowledged to be New England's worst maritime tragedy.

The ill-fated sidewheeler now lies 140 feet deep in Block Island Sound, where limited visibility, heavy boat traffic, and strong currents make the site a spot only for seasoned divers. Much more hospitable is the wooden schooner *Montana*, which lies in 75 to 90 feet of water and is a favorite with underwater photographers and fish-watchers. Another wooden schooner, known as the *Two Brothers*, and an unidentified vessel called the Apple Tree Wreck, which lies near the *Grecian*, add to the variety of sites available to divers, as does a unique geological formation known as The Pinnacle, off the southwest side. Here, Ice-Age boulders provide the setting for dives ranging from 35 to 75 feet deep.

Who knows how many more wrecks lie scattered in the waters around Block Island? A map hanging in the lobby of the Surf Hotel shows wrecks virtually all around the island. In his 1977 book, *Research, Reflections and Recollections of Block Island*, Fred Benson chronicles dozens of wrecks dating from the late 18th century to the *Larchmont* disaster in 1907, which occurred when Benson was 12. As he notes, the island lies at

the eastern end of Long Island Sound, placing it in the New York-to-Boston shipping lanes and a prime spot for collisions. An islander since 1903, Benson has amassed quite a collection of Block Island wreck memorabilia, and the walls of his office are papered with photographs of shipwreck salvage operations and U-boat crews. Many of these old schooners probably are buried beneath the sandy shoals or among the rocks, waiting only for a winter storm or a patient diver to uncover them.

### When the Wind Blows

Late breakfasts and the camaraderie of other divers on the docks give Block Island the feel of a Caribbean resort, but its weather is pure New England—that is to say, temperamental. Frequently, heavy fog makes anchoring a dive boat in the middle of a shipping lane a riskier-than-usual proposition. On this trip, the wind and waves rule out trying to reach any wreck other than the U-boat, and after being bounced around anchored above it for a few hours each day, we're all a little disappointed to spend the last day of the trip on solid ground.

Fortunately, Block Island is not a bad place to be blown out for a day or so. On summer weekends a party atmosphere prevails. Radios blare from the decks of pleasure boats, and the bars are crowded. Vacationers pack Water Street, where storekeepers offer clothing, books, handicrafts, and other souvenirs. If the sun is shining, Crescent Beach is a beautiful spot to soak up some rays.

Ed and I decide to take a short walk. By car, it's possible to see most of the 11-square-mile island by lunchtime, but we prefer to savor it a little at a time. Our jaunt takes us past the grand old hotels that give Old Harbor its character, and beyond the souvenir-hunting crowds.

Unfortunately the Historical Society is closed on Tuesdays, so we miss our chance to see their collection of ship's logs and other wreck memorabilia. We pass a few small craft shops and galleries, then turn up Old Town Road toward the island's interior. As we climb the gentle slope, rambling farmhouses appear through the heavy vegetation that lines this country lane. Low stone fences separate the fields, and at some spots, Block Island looks almost like Ireland. We come to a crossroads where two millstones and a plaque mark the former site of the town center. Farther up the hill is Block Island State Airport, which offers 15-minute service to many points on the mainland. The facility is small but busy, and we are mesmerized as another light plane landed nearly as soon as one took off.

A longer walk might have taken us along a scenic trail overlooking the sea, (Please turn to page 78)



Crescent Beach on Block Island.  
Photo courtesy of Rhode Island Dept. of Economic Development.

# SHOPPERS' CORNER



## SEA SHIRTS

Take a hard look at the design on SCUBAPRO's new Sea Shirts—there is more to see than what first meets the eye. Of course, there is a Queen Trigger Fish, but there are also three other marine images to be seen. Sea Shirts are made of 100% cotton for long lasting wear. They are available in four "fishy" patterns.



## CREW NECK SWEATSHIRT

SCUBAPRO's Crew Neck Sweatshirts are made of 100% cotton and feature full length sleeves along with ribbed neck bands, cuffs and waistband. This comfortable sweatshirt is soft, yet rugged, and will seem like it lasts forever. The sweatshirt is colored Birch and is attractively lettered in Teal. It is available at your authorized SCUBAPRO Dealer in sizes Small through X-Large.

## GRAPHITE SWEAT OUTFIT

SCUBAPRO's Graphite sweat outfit features a hooded sweatshirt with stress point coverseaming, double thickness sewn-on hood with drawstring, a muff pocket, matching pants featuring premium weight fleece, elastic waistband with drawstring, and rolled elastic leg bottoms. This premium outfit is perfect for before/after dive wear or for casual wear. Made of 100% cotton, it is available in four sizes: Small, Medium, Large, and X-Large. ►

## WINDLESS JACKETS & PANTS

SCUBAPRO's new Windless Jackets & Pants are made from DuPont's lightweight Supplex® material. These ultra lightweight garments provide a softer than nylon feel. Lined with a soft, warm flannel liner, Windless Jackets & Pants fit and feel like no other diver wear garment ever has. Rain resistant DuPont ZE PEL provides an invisible shield against the elements. The jacket is hooded and has a hand warmer "pouch" pocket. The pants have an elastic waist with drawstring, and back patch pocket. Available in Small, Medium, Large, and X-Large sizes. ▼



## DOUBLE DUTY REGULATOR BAG

Measuring 13 inches x 6 inches, this rugged nylon bag provides complete protection for your regulator system. Inside it has a padded waterproof vinyl material for added protection. Fitted with a convenient webbed handle, this bag can also double as a cooler bag with a holding capacity of up to 12 beverage cans. Its rustproof nylon zipper provides for ready access and rugged dependability. The Double Duty Regulator Bag is available in four colors: Red, Blue, Gray, and SCUBAPRO Teal.



## SONAR VISION

SCUBAPRO's hand held Personal Dive Sonar allows you to determine with ease the distance to the bottom, shipwrecks, reefs, other divers, schools of fish, and many other objects. A sonar beam angle of only 24 degrees allows you to easily pinpoint boats on the surface, anchor lines, and kelp. The PDS becomes a must during night dives or in dirty water. The PDS can see objects up to 260 feet away and operates down to 300 feet. With only one switch to operate, the lighted display immediately tells you the distance to objects. Available at all authorized SCUBAPRO Dealers.

## SEA WINGS HYPERTHANE FINS

SCUBAPRO's Hyperthane fins are truly the ultimate in technology and comfort—and are virtually indestructible. Designed with comfort and efficiency in mind, these patented fins are the best available anywhere. They are available in three sizes.

## SCUBA PROTECT & UNDER SEE

Scuba Protect was specially formulated for SCUBAPRO to restore the "just like new" look to rubber, plastic, leather, and vinyl. Simply wash your gear and spray on Scuba Protect for that new-look shine. Available in an 8-ounce pump spray for easy use.

Under See's cleaners and wetting agents give you the clearest possible view all throughout your dive. Spray Under See onto your mask lens and rinse thoroughly. You'll agree that things really do look better. Available in two convenient pump spray container sizes.



BY E.R. CROSS

# The Way It Was



**T**he art of going underwater and remaining for a considerable time. That's what diving is all about. But there are tremendous variations in diving: time underwater, reasons for diving, equipment used, and many others. "The Way it Was" researchers, reviews, and comments on the broad range of all past diving events, be they technical, historical, or side-splitting comicalities. Your comments, suggestions, photographs, or questions about the way it was in the yesteryears of diving are welcome. This is your column, too.

During the past 2,000 years, most of the wealth of the world has, at one time or another, been on board a ship. It has been estimated that 25 percent of all the money and valuables sent to sea has been lost beneath its surface and only about five percent of that staggering amount has ever been recovered. Probably from the earliest times, divers have tried to recover some of this vast wealth, mostly with limited success. But if any period in maritime history can be called

the era of the treasure salvor it must be the 20th Century.

In 1912, the wreck of the *Oceania* was salvaged for nearly \$2 million. Then in 1917, there was the British liner *Laurentic* with a cargo of bullion valued at \$15 million. In 1922, the salvage of the *Egypt* yielded five tons of gold and two tons of silver ingots. And in 1940, 10 tons of gold bars were taken from the liner *Niagara* off New Zealand. There were also Teddy Tucker's golden finds off Bermuda and Mel Fisher and his golden treasure off Florida. And most recently, recovery of cargo and artifacts by the Columbus-America Discovery Group began from the S.S. *Central America* sunk in waters 1½ miles deep off South Carolina. By today's values, at least one billion dollars of treasure has been recovered in this century.

It is interesting to review who got paid how much for recovering some of the treasures. Let's take a look at the way it was.

One thousand years ago, enough treasure had been recovered that a controversy developed over who got paid how much of the spoils. By the year 800, authorities in Rhodes had incorporated a law of salvage into their more ancient "Law of the Sea." This section of the law stated, "If gold or silver or anything else is brought up from the sea from a depth of eight fathoms, let the salvor receive

one third; if raised from fifteen fathoms, let the salvor have one half by reason of the danger of the sea." Note that this law does not give the diver the share but the salvors. The diver may be paid on a contract basis with no share of the treasure.

In relatively recent years, most successful salvages of great treasures were made by military or commercial enterprises that employed divers to make the actual recovery. The divers were paid, and paid well for their recovery efforts. The government, or commercial salvors who employed the divers, got the loot.

## The Spring of 1922

During World War I (1914 to 1918), the merchant liner *Laurentic* was taken over by the British Admiralty and converted into an armed cruiser. In the spring of 1917, she was loaded with 3,211 bars of gold bullion valued at five million British pounds. At the time, the gold was worth about 15 million U.S. dollars or approximately \$4,670 per golden bar. Shortly after sailing for Halifax, Nova Scotia, the vessel struck a mine. She sank quickly with a loss of 200 lives and the gold shipment in 22 fathoms (132 feet) of water.

Under the able command of Captain G. C. C. Damant, R.N., salvage work started in mid 1917 and continued, with several interruptions due to weather, the war, and other reasons until 1924. At that time, 3,186 bars had been recovered, leaving only 25 gold bars worth almost \$17,000 unaccounted for. During part of the salvage of the treasure, the divers hand-shoveling tons of sand into buckets that were then hoisted to the surface to clear it from the work area. There were no air lifts in those days.

The divers received no personal extra compensation for the amount of gold recovered. However, at the end of the salvage season each year, officials did give a bonus of one-eighth of one percent of the total amount of gold recovered in that season. The bonus was to be divided amongst the entire crew and not just the divers.

For example, in 1920, only seven bars (value \$32,550) were recovered. This small amount would net a bonus of only about \$41 for the entire crew. On the far side, in 1923 a total of 1,255 bars were recovered valued at about \$5,860,850. The bonus for that season would amount to \$7,326. Not much for an entire crew. But the British seaman's pay wasn't much in those days either. And

E.R. Cross is a pioneer in the field of diving. He has been associated with the sport for 55 years. Mr. Cross served as a U.S. Navy diver during World War II and the first two Bikini atomic bomb tests. He later operated the first commercial diving school and worked for Chevron in Hawaii until retiring in 1985.

that's the way it was for hard working treasure divers about 70 years ago.

The divers on the *Laurentic* and the *Niagara* shared a similar fate. The surviving crew of the *Egypt* reportedly earned a share in the treasure trove. Gold and jewels recovered by diver Teddy Tucker from the waters of Bermuda were the property of the Crown, but Tucker was awarded a substantial sum for his work. The story of Mel Fisher and his gold and jewels is well known. His "fortune" went from total confiscation by Florida to a substantial recovery awarded by Federal Courts. His divers shared in the riches and some are wealthy, but they still search for more gold in Florida waters.

In 1857, the *S.S. Central America*, carrying passengers and gold from the California gold fields, sank in a hurricane 200 miles off the Carolina coast.

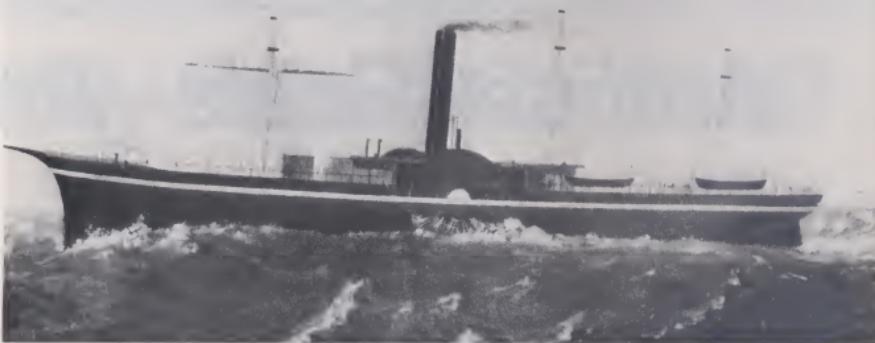
Species of life new to science are believed to inhabit this underwater oasis. Several scientific disciplines were developed and used in locating the wreck and in the investigations that followed. Besides helping to locate the treasure trove, the research will benefit both the military and civilian scientific communities.

By late September of last year, much of the gold had been recovered. Basically, the gold was in three forms. Many gold bars were found and represented gold the California miners had found and brought to San Francisco, where it was melted and cast into ingots for ease of transportation. Then there was the large quantity of pioneer coinage: gold coins minted privately before the U.S. Mint was established in California. Finally, there were hundreds of rolls of perfect golden coins from the San Fran-

shalls. There will be a trial of merit and the ownership of the gold will be adjudicated on the merits of the case."

It has been well established that the seas are a high risk environment. It is not possible to sail or work on them without risk to life and property. One thousand years ago, the Law of the Sea of Rhodes stated the amount of the salvage award should be greater, "By reason of the peril of the sea." This basic precept evolved into what has become the maritime laws of salvage: awards based on risk, difficulty and cost of recovery, and experience of the salvor. Admiralty Courts will now decide how much of the \$400 million treasure of the *S.S. Central America* the men of the Columbus-America Discovery Group will receive.

And that's the way it was in the business of treasure salvage in late 1989.



The *Central America*, photo courtesy of the Mariner's Museum, Newport News, Virginia.

For 130 years, she lay undisturbed 1½ miles beneath the surface. Two years ago, the Columbus-America Discovery Group organized a small team of explorer-scientists to locate and recover the richest treasure trove of gold, artifacts, and scientific information in American history.

When the *S.S. Central America* was located, they found a distinct ecosystem, teeming with life, had developed around the vessel in the midst of an otherwise barren expanse of ocean floor.

cisco Mint. The treasure was recovered by the use of a specially built, remote-operated vehicle and a special technique of applying a high-pressure, low-temperature styrofoam mix to bind the salvage material in place to avoid damage or loss during the recovery.

In early October, 1989, a load of treasure valued at "many millions of dollars" was brought into the port of Norfolk, Virginia. Tommy Thompson, leader of the expedition, said, "We brought gold in for arrest by U.S. Mar-

The Columbus-America Discovery Group not only discovered a sunken vessel and a great treasure; they also discovered the science of cooperation. This successful recovery of treasure from the deep ocean by a non-military, non-government scientific exploration team may herald a new era of civilian activity in this field. It is a trend that should be encouraged by amply rewarding the daring businessmen, scientists, and engineers who risk millions of their own dollars in this kind of venture. §

*A tang takes up residence in a concrete pipe.*



*Concrete culverts are unloaded to create an artificial reef.*

# Artificial Reefs—Are

*Will the proliferation of man-made reefs mean more fish or concentrated, easy-to-catch fish.*



BY LINDA REEVES

Artificial reefs were always thought to be a good idea. Only the rush to build new ones during the last couple of years has raised questions as to the ultimate value to the marine community.

It's impossible to say who thought of the idea, but for thousands of years, man-made objects have been tossed into

Linda Reeves is a Florida-based writer/photographer whose work has appeared in many regional and national publications.



# They Fatal Attractors?

the sea for the purpose of increasing or attracting fish populations. For many divers, the best examples are coral-crusted shipwrecks swarming with schools of colorful fish.

So how can sunken objects exploding with fish and plant life present a problem? A growing number of biologists and conservationists are concerned that artificial reefs are merely underwater junk piles which concentrate fish, making them more vulnerable to predation.

Artificial reefs are usually built by placing man-made materials in places void of any natural rock or coral structure. The most effective reef materials are heavy, durable objects such as steel ships and barges, concrete products, and construction rubble. When these types of material are placed at depths which receive sufficient sunlight, they quickly become carpeted with many forms of marine life. Marine plants and animals such as hard and soft corals, sponges, sea anemones, worms, and

algae attach to artificial reefs and, in turn, provide food for fish and invertebrates.

The first reef architects were the Japanese. These island people depend greatly on the resources of the sea for food. As early as the 1700s, Japan used artificial reefs to improve its fisheries. The Japanese concept of using artificial reefs as a fishery management tool eventually spread to countries around the world.

America's first artificial reefs were constructed off South Carolina's coast in the early 1800s. In the early days of reef building in the United States, man-made reefs were constructed by fishing clubs, service organizations, and individuals to cultivate fish populations for recreational and commercial fishing. Reef efforts in many cases were primitive and virtually a matter of trial and error. Unfortunately, money, time, and efforts were sunk into many reef projects that failed.

Today, Florida leads the nation in the number of artificial reefs. As in many other coastal states, Florida's artificial reef programs are sophisticated and supported by a joint effort of local, state and federal governments; private corporations; and individuals. Funding is by private donations and government affiliated grant programs.

The 20th Century has seen a tremendous increase in artificial reef projects. In an attempt to network artificial reef building efforts, Congress passed the Fishery Enhancement Act in 1984. The act is a major turning point which directed the Secretary of Commerce to design a National Artificial Reef Plan.

Reef building certainly seems like a good idea. Nevertheless, researchers must determine if artificial reefs are fish factories or fatal attractions. One popular argument is that artificial reefs disturb the balance of natural reefs by luring fish away. If this is true, certain species may only be concentrated in a



A snorkeler inspects an artificial reef.

new area and be more vulnerable to overfishing.

Surprisingly, despite the important role artificial reefs play throughout the world, studies of their impact are scarce. There remains very little documented scientific data to prove that artificial reefs have increased fish production.

In the summer of 1988, Dr. William S. Alevizon, professor at Florida Institute of Technology in Melbourne, completed a research project to determine how reefs increase the numbers of fish. This is one of few published experimental studies in the world which has shown evidence that artificial reefs indeed increase fish numbers.

The project was conducted over a period of 30 months in the Looe Key National Marine Sanctuary in the Florida Keys and funded by the Florida Sea Grant College, which is supported by the National Oceanic and Atmospheric Administration, and co-sponsored by Florida Institute of Technology.

Dr. Alevizon and several graduate researchers built two artificial reefs of PVC pipe and cinder blocks in two different, virtually barren areas in the waters of Looe Key National Marine Sanctuary. The artificial reefs were left undisturbed for one year. Examination then revealed both reefs were productive and had attracted fish. The scientists then placed another reef in close proximity to one of the established

artificial reefs to simulate an artificial reef in a natural reef system. The other reef was left undisturbed.

The three reefs were carefully monitored over the next year. The results of the study clearly showed the fish population more than doubled in and around the enhanced reef without attracting fish from the other reef.

A similar study is being conducted off the coast of Southeast Florida. Carman Vare, a marine biologist for the Palm Beach County Department of Environmental Resources Management in West Palm Beach, is heading the project. Vare is also the director of the county's Artificial Reef Program.

For hundred tons of concrete culverts have been placed in tow areas within a short distance from established reef systems in the waters off Palm Beach County. Vare and a team of researchers will monitor the structures over the next year to gauge the impact of the foreign structures on the surrounding natural environment.

Besides fish counts, the researchers will evaluate the concept of using concrete for reef building. Concrete has been found to be most effective since its consistency is similar to a living coral reef. Concrete provides a smooth surface to which sea creatures can attach and grow, thus providing food and shelter for fish.

In addition, Vare plans to establish

several shallow-water fish sanctuaries which will be off-limits to fishermen. The sanctuaries will provide shelter for baby fish and breeding grounds for adults. Vare also plans to experiment with the new concept of coral transplants, a technique developed a few years ago by Harold Hudson, a marine biologist with the U.S. Geological Survey in Miami. Data gathered from Vare's transplant observations will be a valuable source of information for coral reef research.

The full effects of the Palm Beach study will only become apparent many years from now. Vare can only speculate that the data collected from the studies will give reef builders a better understanding of man-made reefs and their effects on the marine environment. He said, "We want to learn the most efficient ways to replenish the marine resources in response to the decline in our fishing stocks."

Buses, barges, computer frames, pink dinosaurs, Rolls-Royces, tires, toilets, yes even toilets—you name it—just about every type of material has been dumped into the ocean to serve as artificial reefs. Are these discarded items really good fish homes? In the rush to improve the marine environment, are we turning the sea floor into a garbage dump? Many conservationists feel some communities have been too eager in the past to throw things into the ocean in the name of artificial reefs before conducting necessary research.

Today, attitudes about man-made reefs are changing. Artificial reef building is becoming more and more important as a tool for coastal resources. In the United States as well as in numerous foreign countries, organized reef committees have been developed to help control what is being put in the ocean and where it is being put. In most cases, construction of an artificial reef requires the coordination of many agencies and individuals. Permits must be obtained, reef material must be inspected and reef sites surveyed and approved.

Are artificial reefs good or bad? The facts are clear that when suitable materials are properly placed in the ocean, they become colonized by marine plants and animals. These marine organisms, in turn, provide food sources and living quarters for fish and invertebrates. Recruitment of juvenile fish begins immediately. The reefs also help by relocating some of the fishing and diving activities that presently pressure some natural reefs to the point of becoming stressed from overuse. The bottom line from the information that has been gathered seems to indicate that artificial reefs create favorable conditions for increasing the population of marine life.

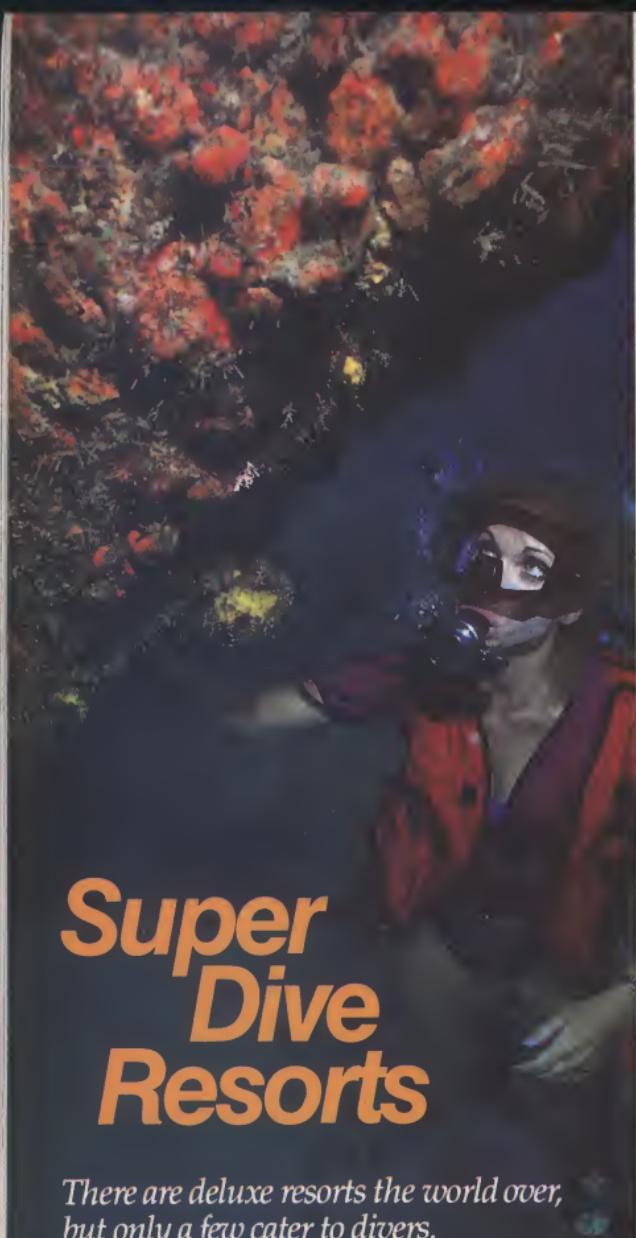
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# Super Dive Resorts

*There are deluxe resorts the world over,  
but only a few cater to divers.*



BY M. TIMOTHY O'KEEFE

**B**ecause diving was initially a sport for the adventurous, and many of its early participants traveled on shoe-string budgets, the travel industry traditionally regarded divers as low spenders.

But the face of diving has changed dramatically and a few of the world's top-notch resorts have awakened to the fact that there are many doctors, lawyers, and business execs willing to pay for the classiest accommodations if they can pursue their favorite sport.

Each of the following world-class

M. Timothy O'Keefe is Editor-at-Large for the Florida Sportsman and a professor of journalism at Central Florida University.



At left, is the Stouffer Grand Beach on St. Thomas. Horseback riding is offered at the St. James's Club on Antigua.



Helicopter tours of volcanoes and swimming with dolphins are offered at the Hyatt Regency Waikoloa on Hawaii.

resorts has its own scuba operation, yet you'll seldom see them advertised as dive resorts. They tend to promote their exclusiveness, their dining room, service, tennis, golf, swimming, horseback riding, and even big game hunting.

The list of super scuba resorts is brief, as there are only a handful of such properties. All are virtually brand new, none existed five years ago. But each in its unique way acknowledges that diving has truly come of age. And this is only the beginning.

#### St. James's Club, Antigua

This is undoubtedly the place to dive with the rich and famous. A frequent diver-guest is Prince Michael of Kent, a

member of the British royal family. Tennis ace Martina Navratilova learned to dive here, as did musicians Robert Palmer and Simon LeBond, and movie directors John Landis and Roland Jaffe. Arnold Schwarzenegger wanted to become certified here while on his honeymoon but couldn't because he had a cold.

The St. James's Club routinely hosts such people because the small, private hotel chain also has other clubs in London, Paris, and Los Angeles. After spending time at one of these land-based clubs, it's only natural that celebrities would want to spend time at the Caribbean site. Furthermore, the hotel chain has gone out of its way to attract such guests by using a panel of



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international celebrities to provide suggestions for the best possible holidays for everyone, not just the notables.

The St. James's Club is situated on 100 acres of rolling, tropical land surrounded by water on three sides. It offers not only diving, but horseback riding, sailing, windsurfing, and deep-sea fishing. The club has three swimming pools, an open-air Jacuzzi, its own disco, casino, massage service, beauty shop, gourmet deli, and on-site rental car office. Even secretarial and baby-sitting services are available. Actually, there's hardly anything the St. James's Club doesn't offer.

Divemaster Bert Kirchner certified 321 new divers in a recent single year, which may be an all-time record for any resort anywhere. He sends out two-tank dives each morning, leaving the afternoon for instruction and snorkeling trips.

Visitors to the St. James's Club can stay in one of 105 regular rooms and suites, 73 individual luxury villas, or four spectacular hilltop houses. Room rates discourage all but the rich and famous. A basic hotel room, based on double occupancy, ranges from \$300 to \$500 per night depending on the time of year, and includes breakfast and dinner. Villas (which can accommodate up to 6 people) are from \$650 to \$950 per day. Single-tank dives are \$40, two tanks are \$60 and a five day, 2-tank package is \$280. For information call: (800) 274-0008.

#### Hyatt Regency Waikoloa, Big Island of Hawaii

This place has to be seen to be believed, and even then you may not believe your eyes. Built at a cost of \$360 million, it is one of the most expensive resorts ever constructed anywhere in the world. The Waikoloa is a combination Disney World, open-air art museum, and luxury hotel.

Guests are transported to their rooms either by canal boat like the ones used in Disney's *It's a Small World* or tubular-styled trams. A mile-long walkway extending the length of the resort is decorated with rare and unusual Thai carvings, ancient funeral art of China, and exotic ritual art of Melanesia and Polynesia. Huge white marble carvings depicting scenes from Chinese mythology are set around one of the swimming pools.

A \$16 million Tom Weiskopf-Jay Morish championship golf course, 17,500-square-foot health spa, eight tennis courts, and two racquetball courts are part of the recreational facilities.

The Waikoloa is what Hyatt understandably calls a fantasy resort, but the fantasy doesn't end at the resort itself. The hotel can arrange a hunting safari for wild Russian boar, wild turkey, or pheasant; a one-day private Cessna jet

tour of Hawaii's most scenic islands; a private dinner in the restored Hulihee Palace in Kona; a day spent as a cowboy on the 22,000-acre Kahua cattle ranch; snow skiing at 14,000 feet atop Mauna Kea; a helicopter picnic; or Formula race car driving. The most exciting fantasy is helicopter low over the lava flows in Volcanoes National Park.

The most affordable and accessible fantasy (\$55) is a swim with dolphins on the property itself in an enclosed lagoon. The most expensive is the jet tour (\$3,900 for up to 6 people including limousine transportation on each island). The next most costly is the lavish palace dinner party (\$1,800 for up to four people).

Oh yes, and scuba diving—that's also one of the so-called fantasy trips. It's possible to earn NAUI or PADI certification in a four-day course through Red Sail Watersports, a Hyatt-affiliated operation that also has branches in the Caribbean. Diving here is about as expensive as it can get: \$75 for a single-tank boat dive, \$100 for two tanks. One thing done differently here is that the diving is done from a catamaran that not only carries snorkelers but a huge, lavish lunch buffet for snacks between dives or a full meal afterwards.

The Waikoloa has 1,241 guest rooms including 190 with special concierge ser-

vice and complimentary breakfast, beverage service, and late afternoon hors d'oeuvres. Prices range from \$2,700 per night for the Presidential Suite, \$350 to \$380 for the Regency Club with concierge service to \$245 per night for an average room in the Lagoon Tower. For information, call (800) 228-9000.

#### Hyatt Regency, Grand Cayman

The Hyatt Regency introduced the concept of world-class luxury to an island that already offered world-class diving. The British Colonial-style complex offers everything from regular rooms to suites, villas and the Regency Club with its own concierge service.

The 90-acre resort hotel is located just across the road from its own private beach club on famed Seven Mile Beach. It is not situated directly on the beach. All rooms have ceiling fans and air conditioning; a fully stocked serv-bar; a personal safe; TV, radio, and telephone; and bathrobes. Several 1- to 3-bedroom villas with private outdoor patio or balcony, fully furnished kitchen with utensils and washing machine/dryer are also available. Villa guests have their own swimming pool, whirlpool, and cabana area.

The Hyatt has its own 65-foot luxury catamaran the *Spirit of Ppulu* that in-

(Please turn to page 76)



The Britannia Golf Course is adjacent to the Hyatt Regency Grand Cayman.



# The Spearfisherman,



BY BOB MARX

**T**he final installment of this series is designed to help you decide which gun to use and how to rig it for spearfishing. No single speargun is ideal for all types of fish or all types of water.

But, if you have researched your quarry and dive site, you will know roughly what kind of fish will be present, how big they will be, and how clear the water will be.

Photo by Diane Polster  
Bob Marx is a diving instructor and avid spearfisherman. This series is his first contribution to Diving & Snorkeling.

*Spearfisherman grins as he brings up a nice halibut. Diver below prepares to make a beach entry.*

Obviously the bigger the fish hunted, the larger the gun will need to be. But, if the visibility is poor, then a large gun will be a liability. The rougher the water is, the tougher it will be to handle a large gun. Conditions will dictate the size of the speargun used.

Before getting into the specifics of gun selection, it must be pointed out again that this is a sport only for divers who are skilled enough and mature enough to evaluate and stay within their limitations.

If you are a complete novice in the water, you're not ready for a speargun. Before attempting spearfishing, you must have complete control of your buoyancy; equalization of your ears must be done without conscious effort, and movement through the water must be smooth and effortless. To carry a speargun also requires being able to function underwater without the use of one or both hands at all times.

I can narrow the gun selection process by offering some advice—forget small guns. Though it may feel macho to have a pneumatic pistol strapped to your leg, the only game fish consistently taken with these sidearms have suicidal tendencies. It's not that the small

SCUBAPRO's Magnum 70 will work fine.

In band guns, SCUBAPRO's 26-inch Panther and 36-inch Panther represent both the smallest midsize I can recommend and the largest a novice should attempt.

Pneumatic spearguns work on a compressed air principle that is roughly similar to a balloon. If you push your finger into a balloon, the additional compression of the air trapped inside will act to force your finger back out. In a pneumatic gun, ramming the shaft into the gun causes additional compression of the air trapped inside the barrel. Pulling the trigger allows the compressed air to force the shaft out of the gun. And like a balloon, because it remains sealed, there is no loss of air, and consequently no bubbles. Theoretically this provides an infinite number of shots all at the same power.

Pneumatic guns share another characteristic with balloons. They respond to Boyle's law. The greater the depth, the greater the ambient pressure will be. Therefore, the gradient between internal pressure and external pressure will decrease with increased depth and less force will be available to propel the shaft.

Pneumatics generally rely on thin, fast shafts to produce good penetration. Bulky lines, large cumbersome tips, and the loss of force due to depth all serve to slow the shaft and reduce the effective kill range of pneumatics. From my experience using a thin shaft, a clean streamlined tip, a thin stiff shock line, and as much air pressure in the gun as I can load, I get about six feet of kill range from the Magnum 70 and up to 15 feet from my 105.

A heavy shaft will hit harder downrange if it arrives at the same speed as a lighter, thin shaft. But, it takes more power to propel it at the same speed as a thin shaft. With a band gun, you can use heavier bands or more bands to produce additional thrust. With a pneumatic you are limited by the gas pressure in the gun. Use a thin shaft.

The tip you use should be appropriate for the fish being hunted. Batwing tips will give more surface area and more holding power with less penetration than toggle type tips. For large, powerful fish, you should use a breakaway tip to protect your shaft from being bent and to keep the fish from getting sufficient leverage to tear off. Facet-cut tips

## Part III

pneumatics and short single-band guns lack killing power, it's that they lack range. More specifically, they lack shaft mass and speed downrange to insure adequate penetration.

Nor should your first gun be extremely long. A pneumatic with a shaft more than four feet long is difficult to load. It may be impossible for some individuals. The sheer unwieldiness of a large-band gun can make diving with it a chore. For the inexperienced, the line and floats for a large open-water gun can create an entanglement hazard in calm water and a disaster in rough water.

For the beginning spearfisherman and for 95 percent of all spearfishing, a mid-size gun will be the optimum choice. In pneumatic (air powered) guns SCUBAPRO's Magnum 95 or Magnum 105 are good choices. For smaller divers or when hunting panfish in poor visibility,

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penetrate better than rock tips, which look like they've been sharpened in a pencil sharpener. If you plan on shooting rocks use a rock tip; if you plan on shooting fish use a facet-cut tip and carry a small file to keep it sharp.

Occasionally, the extraction collar on batwing tips will fail to release on impact, allowing the tip to pull out of the fish unopened. I recommend shooting batwing tips with the extraction collar off the batwings. Water pressure will keep the wings closed when you shoot.

You should rig a gun with the smallest practical line. I have one friend who uses dental floss and a couple of others who swear by monofilament. All of them change their lines often. A stiff line will be less prone to tangling than a soft, flexible line. I find 100- to 200-pound test tuna cord is a good compromise of size, stiffness, durability, and strength. If you're not using a reel or breakaway floats which are not needed for fish under 20 pounds, attach your shock cord (a length of rubber that acts as a shock absorber preventing the shaft from snapping (the line) directly to the gun and the line from the shock cord attaches to the slide ring on the shaft.

Band guns should be rigged the same as pneumatics, except if you prefer to use a heavier shaft, shaft speed can be maintained by increasing the number or size of the bands. Be careful not to exceed the manufacturer's recommendations for the gun. Overloading a gun will either jam the trigger or it could cause premature release, which is always at the least embarrassing.

Using shorter bands will not increase the power of the gun. Shorter bands are harder to load and overstretching the rubber causes fatigue that actually decreases the elasticity of the band. The longer a rubber is stretched, the less power it will deliver. Old-timers call this loss of power "soaking off." Hence a freshly loaded band will deliver more snap than one that has been loaded for 10 minutes. Unlike pneumatics, rubber powered guns do not lose power with depth.

Change the bands often. If you replace them at the first sign of wear or fatigue, they won't snap in the water. When not using the gun, take the bands off and store them in a zip lock bag after a liberal application of silicone grease.

Most midsize guns come equipped with the right bands, line, shock cord, and shaft for the average beginner. I recommend buying spares for anything that could conceivably break or bend on a speargun.

If in time, you want to accessorize a gun to take on bigger fish, the first thing to add is a reel. This will allow you to play a fish much as a rod angler would. Complete customization is only effective

when it is done for a specific purpose. Gulf coast divers rig their guns with cable because they hunt around the sharp edges of oil rigs. Many Florida divers shoot free shafts because they know the grouper they shoot will hole up and the clear water allows them to follow the fish to its lair. California bluewater hunters use oversize reels and breakaway floats to control large pelagics while free diving.

## The water is so clear, you can't tell how deep it is.

If you want to be an effective spearfisherman, first become comfortable and confident with your diving skills, then use a midsize gun to take midsize fish.

I've written in general terms about spearfishing, and regardless what species of fish you hunt I hope some of my tips will be useful in your pursuit. Spearfishing will add an element of satisfaction and accomplishment to your diving.

Picture yourself diving in water so clear you can't tell how deep it is. Looking down from the surface, the bottom is as clear and detailed at 100 feet as it is at 20. The water is so clear that fish don't get easier to see, they just get larger as they move closer. Last summer I experienced this type of spearfishing.

Our group was aboard the *Sand Dollar* with Captain Bill Johnson, about 270 miles south of San Diego, and 120 miles off the west coast of Baja California. Here the island of Guadalupe hides

from the rest of the world, and it was here I found spearfishing at its best.

Calico bass up to 10 pounds obviously had never seen a diver. Yellowtail would cruise in to investigate every disturbance. Harbor seals, California sea lions, and elephant seals found us as interesting as we found them. Wild dolphins would come to us on the surface. They would twist and turn, then hang motionless. Their shrill squeals and staccato clicks echoed through the water. Sometimes we got the feeling they thought we might be fun to play with if we weren't so damn slow.

The spearfishing was as challenging or as easy as each hunter wanted it to be. Some of us were there just for the chance to shoot a bluefin tuna, and the bluefin were there, great schools of them. Bluefin are magnificent creatures equipped for speed. Their pectoral fins fit into concavities in their sides, their dorsal fin tucks into a slot in their back, and their eyes are mounted flush to reduce water turbulence. Evolution also eliminated their swim bladders in favor of increased muscle mass to drive their football shaped bodies. They have tiny spoilers (utting up and down from their back and belly) from the midpoint of their bodies back. These spoilers move in opposition to the tail to increase stability and speed. A bluefin's life is an endless hunt. They roam the seas of the world in search of food to power the overdrive metabolism of their supremely adapted bodies.

I have always believed that when you can see details in a fish's eye, he is close enough to spear. Free diving in water so clear and so deep that bottom was more a concept than a reality, our ability to judge range or the size of a fish became distorted. For three days, I would hold my fire until I could clearly see detail in a bluefin's eye, and for three days the shaft fell short, or the shot passed behind the unperturbed fish. All of us were having the same trouble—we were seeing lots of fish we couldn't hit.

We judged the fish to range up to 60 pounds and when one was finally taken by Bob Jackson, it weighed 170 pounds. The water was too clear. We couldn't judge the size of the fish so judging range was impossible. Six experienced bluefin hunters spent hours every day for three days trying to shoot bluefin. We had the right equipment; we were rigged for big, fast, strong fish; we had the skill and experience necessary to get close to our quarry—and we couldn't score. Yet, not one of us was disappointed. That is spearfishing, the experience is the end. Hundreds of hours, thousands of dollars, and only one bluefin landed, but who cares, we'll all be back next year.

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BY MARK RUARK

*Once out of  
the water,  
an artifact must  
be preserved  
or it could be  
lost forever.*

# Preserve or Perish

Every time treasure hunters find the remains of a galleon off the Florida coast it makes the news, but not so well publicized is the long, laborious process required to preserve the many artifacts these wrecks yield.

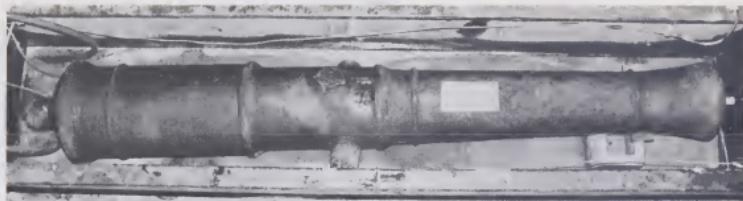
The ocean does not relinquish easily its claim to items it has harbored, sometimes for centuries. With the exception of gold, which is little affected by submersion in salt water, almost everything else recovered has to be specially treated or it will be irreparably damaged, if not ruined.

The little-known Research and Conservation Laboratory housed in the Florida Museum of Natural History in Tallahassee is the largest facility in the nation for preserving artifacts recovered

*Mark Ruark is a journalist residing in Florida who frequently writes on diving developments in that state.*

Air pressure is used to remove encrustation from a flintlock pistol before electrolysis treatment.





from the sea. One of its greatest responsibilities is the preservation of the 20 percent representational cross-section of materials Florida receives from every treasure salvor working under contract with the state.

In addition, the lab treats artifacts excavated from Florida land sites, conserves items under a cooperative agreement with the National Park Service, and occasionally processes privately owned artifacts that are to be donated to a public institution. The result of the lab's efforts, although most prominently displayed in Florida, can be seen literally all over the country.

The lab accomplishes its work in a space not much larger than two college lecture rooms. That's not a great deal of space, but far better than the first conservation lab in the old Leon County jail where mosquitoes and leaky wooden vats made life difficult until the facility moved into the museum in 1976.



Photos courtesy Florida Dept. of State, Research and Conservation Laboratory



Cannon is placed in a holding tank where electrolysis removes encrustation. The Spanish Fleet of 1733 is surveyed in the Florida Keys. Photo by K.C. Smith, Florida Dept. of State.

James Levy, who has been with the lab since the early 70s, is the group's conservator. He says that since 1976, the lab has successfully cleaned and conserved 50 cannons, 20,000 silver coins, and thousands of less glamorous but historically important items.

"We've treated just about everything you can think of that might have been on a Spanish ship," he says. "Ninety percent of our work deals with iron or cast iron objects. Gold doesn't really need to be preserved since it doesn't corrode when it's re-exposed to the air. Coral may encrust on gold coins and gold jewelry, but once you remove the encrustation, the items are as good as new."

A typical ship's inventory is an impressive list: muskets, pistols, knives,

daggers, galley equipment, silver and pewter plates, wooden bowls, ceramic dishware, the ship's bell, ship's rigging, anchors, pulley blocks, and common cargo such as jars.

And, of course, there are cannon balls, perhaps too many cannon balls.

"My life would be rich if I never again saw a cannon ball or a nail used to hold a ship together," Levy said. "Nails are one of the things that keep you busy between big projects."

Under the direction of lab supervisor Hubert Bump, work is underway on the biggest item the lab has ever conserved, a huge cannon from Fort Pickens at Pensacola. The barrel alone measures 25 feet in length; the carriage and tube combined weigh 30,000 pounds. The cannon was used for target practice at



*Carriage section of "disappearing rifle" weighing approximately 20 tons is readied for electrolysis treatment in deep tank. Cannon marking, at left, is English Tudor (House of Rose).*

West Point before being shipped to the fort for public display. The cannon had to be hauled to the lab on a tractor trailer and was so large the air was let out of the truck tires in order to get the huge gun through the door. It will take three years from beginning to end before the cannon is ready to go on display again.

"This one has really stretched us to our capacity," Levy admits. "I hope we never get anything larger than this. Who knows, they may bring in the U.S.S. Arizona for us to clean next," he jokes.

The giant Fort Pickens cannon needs stabilizing treatment from its long exposure to salt air. However, the process

is the same for a cannon or almost any other metal object that's been underwater: electrolysis, the removal of salt from an artifact by using direct current, an anode and electrolyte. It's a time consuming task. Just an average cannon on board a galleon, the typical 24-pounder, is a two-year commitment of time and laboratory space. The cost of preserving one is \$3,000.

Levy explains how the electrolysis process works and why it is effective. "A cannon actually has salt inside the metal after it's been submerged for so long. That's the heart of the corrosion problem—you have to get the salt out of the metal to preserve it. Washing does little good."

Ideally, the lab receives a cannon that

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still has its coral coating and has been kept constantly wet. Levy says it takes only about five days for a cannon to start drying out and oxidizing even with the coral encrustation intact.

"Once the cannon is out of the water and exposed to air, the salt starts to crystallize," he said. "That causes the salt to take up more space, which in turn shears off a layer of metal already oxidized when it was submerged. Gradually, over time, the cannon gets thinner and thinner as more layers peel off."

Electrolysis works on the principle that opposites attract.

"First, the cannon is placed in a tank filled with water and a 2 to 3 percent solution of caustic soda," Levy explains. "Using a DC power source, we take the negative side and place it on the artifact to be cleaned. For the positive, we use a platinum alloy wire and place it in the electrolyte solution around the object."

In the case of a cannon, four anodes are placed around the outside and one down the bore, too, since the cannon has to be treated inside as well as out.

In effect, the positive charge of the anode pulls the salt out like a magnet. "We know the salt ions are mobile since they penetrate the cannon in the first place. We get them out by putting the negative charge on the cannon so they will leave and be attracted to the anode.

"It is difficult to tell how long it takes to remove enough salt from a cannon due to varying degrees of oxidation. Quite often, we leave artifacts in the electrolysis longer than might be necessary, because it's better in the long run to over-treat than to remove a piece too soon and have to treat it again," Levy said.

If a cannon comes out prematurely, it's likely to have pockets of salt water still trapped inside. Eventually, the metal around these salt pockets flakes off, leaving deep pits.

At the same time the electrolysis removes the salt, it also mechanically cleans away coral and rock, thanks to the hydrogen bubbles that are constantly produced. After four to six months of electrolysis, sections of encrusted coral usually begin to sound hollow when tapped. Once they do, they can be broken off in big chunks.

Silver coins are treated in the same manner as cannons; normally it takes two weeks or less to clean a coin. Any stubborn spots the hydrogen doesn't loosen are nudged off with hardwood sticks.

"Most of the silver coins we get are not in very good condition," Levy says. "A lot of them are like razor blades, just thin wafers of metal with no markings left at all."

At the same time the conservation lab

is tackling the huge Ft. Pickens cannon, it also is attempting to preserve five cypress and pine Indian canoes by heating them at a constant temperature of 140 degrees in a sugar water bath. The technique is highly experimental.

"We're trying to cook the sugar into the wood cells so the sugar will crystallize when it dries, giving the wood more strength so it won't crack or shrink," Levy says. "Apparently a treatment like this was used before World War I to preserve railroad cross ties. We're trying to determine how well this method will work for us because it's more economical than most of the alternatives."

Because of the destructive effects of the sea over long periods of time, the conservation lab does relatively little work on organic remains like paper, wood, or cloth. On a galleon, for instance, the only wood likely to survive is the section buried under the ballast pile. Marine worms and abrasion get the rest.

Pistols, swords, and knives often totally disappear, leaving a perfect mold inside a piece of coral rock. Such artifacts may be gone, but they needn't be forgotten since they leave a perfect impression inside the coral that can be cast.

To replicate a pistol that's oxidized away, the coral rock is cut in half and all the wood and rust scraped out with small, sharp tools. How well the rock is cleaned determines the amount of detail that will be revealed when the piece is cast.

Then the rock is glued back together and placed in a sandbox with the open bore hole pointing straight up. Hysol, a resin compound, is poured inside. The Hysol settles gradually, needing to be topped off several times. Hysol cures quickly, literally overnight.

Making a replica is a one-time affair since the rock mold has to be destroyed. That's done by using an Air Scribe, a precision tool that gradually shatters the coral until the resin pistol is exposed. Only the replica doesn't look like a plastic toy. The Hysol picks up enough of the original rust left inside the rock that the pistol looks exactly like it would if it had a slight rust coating from being underwater.

Replicating a sword handle requires a slightly different technique. The rock is broken and cleaned out as much as possible with wires and brushes. Then the coral is broken into three sections: the handle, the counterguard, and the sword blade. First, the handle is filled with Hysol. Then the counterguard is placed on top of the handle and filled; next the blade section. The three-part process is the surest way to get Hysol into all the nooks and crannies. Once the Hysol cures, the rock is removed with the Air Scribe.

"Each time it's a one-time casting, so you put everything you've got into it," Levy says.

The most unusual item the Research and Conservation Lab has ever restored didn't come from a sunken galleon. Instead, it was the stove in Martin Luther King's childhood home.

A project for the National Park Service, the lab took the stove apart one piece at a time, removing the rust and rechroming or repainting each section.

That was quite a change from the usual restoration work. For Levy, it also was a lot more satisfying than cleaning another batch of cannon balls. **S**

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Only a handful of boats are anchored at the cay as it is a weekday, but during the weekend at the height of the winter season, several hundred people might sun and picnic on the beach in front of the restaurant.

Just five minutes from Prickly Pear is one of Anguilla's top dive sites, a series of underwater ledges and caverns. We rest for a time after lunch and then head to the permanent mooring over the site, which varies in depth from 30 to 70 feet.

The caverns and ledges are brightly colored with encrusting sponges and a handful of corals. The rock interiors particularly are ablaze with reds and purples, a living wallpaper of encrusting sponges. They make an excellent photo backdrop for divers winding their way under the ledges, though a constant surge stirs up the sand and makes it difficult to stay in one position for very long. But after a while, we are able to time the motion so we can use it to enter and exit the overhangs. It's fun winding through this underwater maze, not quite sure what will be found inside the next opening.

As throughout most of the Eastern Caribbean, the constant surge makes it impossible for the kind of impressive coral growth found in places like the Caymans and Bonaire, where the ocean typically is more gentle on marine life. Instead, divers are content with low profile reefs and colorful rock gardens like the one found at Prickly Pear. Not much of a hardship on an island as beautiful and unspoiled as Anguilla, which also has several large wrecks in relatively shallow water.

I'm diving with the very effusive and witty Iain Grummitt of Tamariain Watersports Ltd., Anguilla's only dive operator. The fact that there is only one dive outfit for the entire island perfectly illustrates just how few visitors yet come here.

Anguilla, only 150 miles east of Puerto Rico and 11 miles north of St. Martin/Sint Maarten, is still one of those rare Caribbean islands few people know about. Pronounced "An-gwil-a" by the locals and "An-gwee-la" by tourists, this tiny 16-mile-long island has yet to be discovered. But that is changing.

Film star Chuck Norris has built an estate here and actor Michael J. Fox put Anguilla on the international publicity map when he revealed he'd successfully escaped all the hounding tabloids by honeymooning here. Anguilla's number

BY M. TIMOTHY O'KEEFE

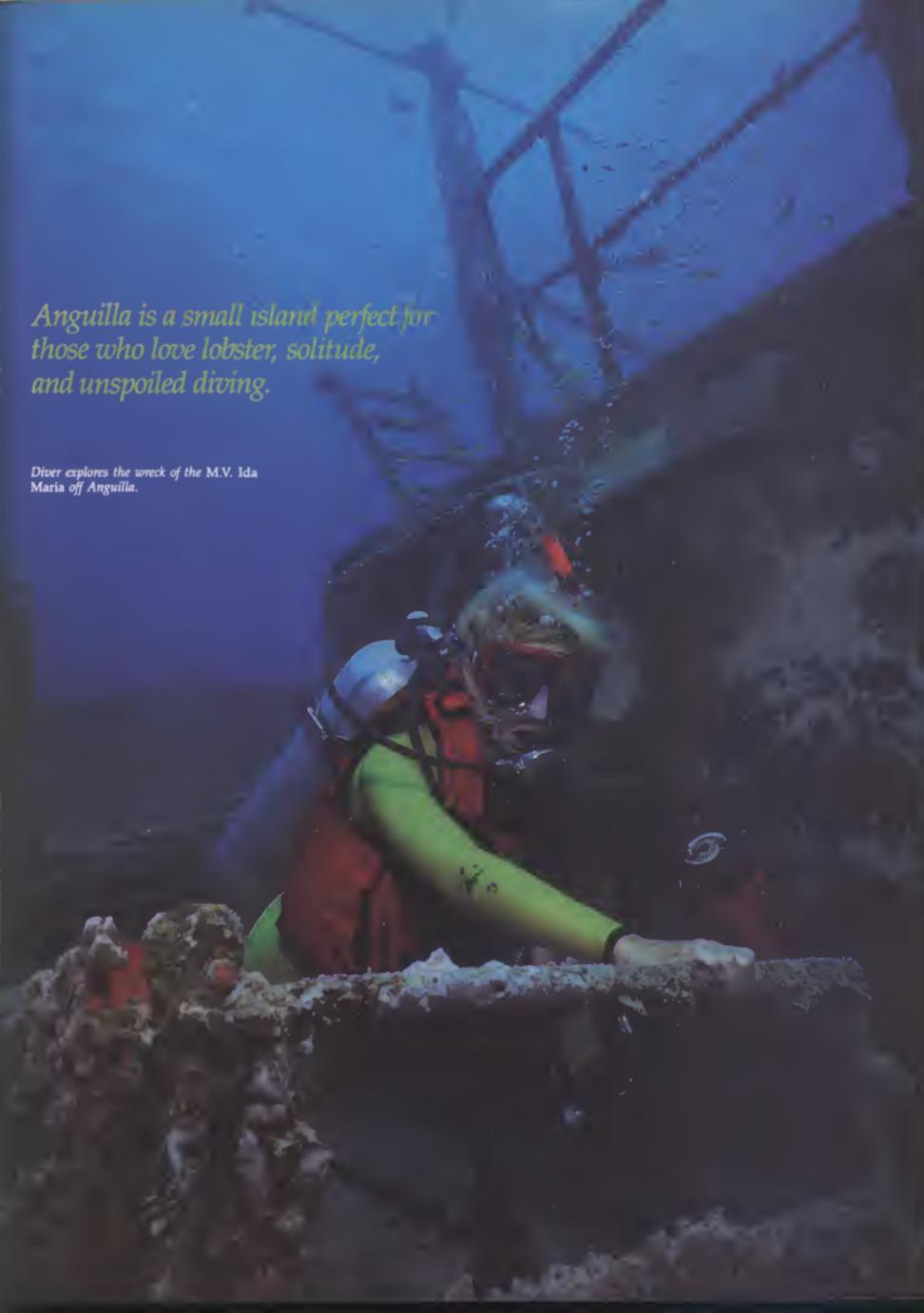
# Leeward Escape

**I**nner thought I'd tire of lobster, but on this particular trip, I got my fill. Anguilla is a sleepy little island in the Leewards where lobster is like hamburger in the States—it's not uncommon to eat it at least twice a day.

So I'm enjoying some of the best lobster I've ever had, on an uninhabited cay called Prickly Pear where a local family runs a makeshift restaurant during the day, then motors back to Anguilla each night. This lobster is incredible. It is basted with garlic butter and various herbs and lightly grilled so it is still tender and juicy. These people would make a killing in Miami.

*Anguilla is a small island perfect for those who love lobster, solitude, and unspoiled diving.*

*Diver explores the wreck of the M.V. Ida Maria off Anguilla.*



*Little Bay is one of 30 beaches on Anguilla. Snorkelers admire large, colorful starfish before returning them to the water in front of Tamariin Watersports. The view from Cinnamon Reef Resort.*

of tourist rooms recently increased from 500 to 800, so tourism surely seems headed this way.

Anguilla has 30 beaches, one for every day of most months, and most of the time you can stroll beside the incredibly beautiful turquoise water and never see another human. Considering that Columbus spotted the place on his second voyage in 1493, change has come slowly. English settlers arrived from St. Kitts in 1650. For centuries afterwards, Anguilla played a subordinate role to St.



Kitts as part of the British administration unit known as the Leeward Islands Federation (Nevis was added in 1882).

In 1967, Anguilla finally decided to become independent and its rebellion resulted in the kind of political farce more typical of Latin America. For two years, the country handled its political affairs alone, but at the urging of St. Kitts and Nevis, Britain decided to invade the island.

According to the islanders' version of the war, the Brits had to send in paratroopers since there weren't any landing craft available. The troops supposedly arrived in the middle of summer wear-



# Travel Tips

## Getting There

Since the labor and financial problems at Eastern Airlines began, American Airlines has pretty much taken over the Caribbean scene. Anguilla's runway is too short to handle the big jets, so the closest American flies is to neighboring Sint Maarten.



Maarten's Queen Juliana Airport. American has direct flights to Sint Maarten from New York and connections there via San Juan from many other destinations. From Sint Maarten, you can fly to Anguilla either by American Eagle or the Winward Island Airline (Winair). Or you can take a cab to the town of Marigot and catch the ferry to Anguilla. I recommend getting all the way to Anguilla by plane since it doesn't cost much more to take a shuttle flight, and you miss the hassle of going through immigration in St. Martin/Sint Maarten which can take forever if several large planes land at the same time. Winair has recently added some night flights

ing heavy winter uniforms issued specifically for this expedition. When the overheated paratroopers hit Anguilla, they were met by smiling natives waving Union Jacks who placed garlands of flowers on the invaders. For the most part, the peacekeeping force simply relaxed on the beach until they were coaxed into building roads and schools, which explains why much of Anguilla has good hard-surface roads.

In 1976, Anguilla adopted a new constitution that governs all the island's in-

ternal affairs and calls for a British governor responsible for public service. Political matters instantly returned to their usual tranquil status and have since remained that way.

Anguilla is a true hideaway island since there isn't much to do except relax, go beachcombing, and dive. There are no charter fishing boats, no big night clubs, no casinos, and no shopping to speak of. However, all those things are available on nearby St. Martin/Sint Maarten, only a 20-minute ride away by

from St. Maarten to handle the late planes.

## Where to Stay

Most of Anguilla's hotels are quite small with 20 to 30 rooms. That means you get plenty of individualized service, but prices aren't cheap. I stayed at Cinnamon Reef Beach Club, which provides luxury cottage accommodations that feature a large living room and bedroom area and spacious patios, all with wonderfully comfortable hammocks. I can't say enough good things about Cinnamon Reef's restaurant, which is one of the Caribbean's finest. The menu changes nightly and guests from other hotels frequently dine there. The manager is Mike Emmanuel, formerly at the Southern Cross Club in Little Cayman. So even though Cinnamon Reef isn't your typical dive resort (no hotel on Anguilla is), he does know what it takes to keep divers happy. Rates for a cottage are \$300 winter, \$200 summer, double occupancy. MAP (full breakfast and dinner) is \$40 a day per person, a real bargain considering restaurant food costs where dinner alone can run this much.

Other good hotels on Anguilla are the Mariner's, Cocoloco Plantation, and Cap Juluca. Keep in mind that the most expensive time is December 15 to April 15, and that rates drop 30 to 50 percent in summer, which is actually the best time to dive.

## Taxes/Currency

There is an 8 percent government tax, plus all hotels/restaurants automatically add another 10 percent to the bill for service. The local currency is the EC dollar which is pegged to the U.S. dollar. The rate is US\$1 equals EC\$2.68. Dollars are easily converted everywhere. Keep in mind that not all hotels or restaurants accept credit cards, so

check ahead.

## Getting Around

With the exception of The Mariner's, all the hotels are located a good distance from Tamarain Watersports, so a rental car is almost essential for getting to the dive boat. A car is also needed for regular touring, or the taxi fares will eat you alive. Triple K Car Rental has Stellas, Excels, and Mini-Mokes with unlimited mileage for \$210 a week, including insurance, which for the Caribbean is a very good deal. Triple K, which trades cars every year for the latest models, also has free delivery and free pick-up if you leave the car at the airport or ferry. For reservations, phone: (809) 497-2934.

## Dive Packages

A single-tank dive with Tamarain is \$35; \$60 for two. Night dives are \$40 with a two-person minimum. This 5-star P.A.D.I. facility and SCUBAPRO dealer also offers certification and specialty courses. A 3-day, 2-tank package is \$155; five days with two tanks is \$260. For information, call direct: (809) 497-2020.

## When To Go

The best weather is from March through August. September and October can be good, too, if there isn't a hurricane. Avoid the period around the full moon since the ocean surge is apt to be worse then.

## Documents

Passport, birth certificate, or voter's registration card.

## Electrical Current

It varies between 110 and 220 according to the hotel, so check ahead if you have rechargeable equipment.

## For More Information

Contact the Anguilla Tourist Office, 1208 Washington Dr., Centerport, NY 11721.

\$

fast ferryboat if the craving for crowds and civilization becomes too great.

Anguilla could be a difficult place to enjoy alone for a week; it would also be a bad place to be with someone you didn't like very much or didn't get along with well. Personally, I relished the relaxed island style. I'm sure the place I stayed, the Cinnamon Reef Beach Club, had a lot to do with it. The very efficient and courteous staff (who reflected the general mood throughout the island) so spoiled me that I hated



to leave unless it was time to dive or snorkel.

Tamariain Watersports is located at Sandy Ground Village, Anguilla's main anchorage. Out front of the dive shop in 8 to 12 feet of water I found some of the largest starfish I've seen anywhere, and loads of them. They were the favorite object to search for, photograph, and return to the water before and after dive trips.

I was in Anguilla about three weeks after Hurricane Hugo cut its path of destruction through the Caribbean. Since September normally is an off month for the entire island—dive shop and hotels alike—and everything usually closes, I was one of the first divers to see any evidence of the hurricane, which fortunately had caused minimal land damage.

For the most part, the reefs seemed little affected by the storm, but not so one of the wrecks I visited, the M.V. *Ida Maria*, a 110-foot freighter sitting intact and upright with a maximum depth of only 60 feet to the bottom. The ship had been deliberately sunk to create a dive site, but Hugo had caused some remarkable changes.

The ship was still mostly intact, but it had apparently been shifted around so much by the storm that the coral around it had been wiped out. The *Ida Maria* also had settled down another 2 to 3 feet. Before, there had been no holes in her sides, but Hugo tore a large gash in the starboard side and the once

upright railings were now lurching over the side.

The prop was still firmly attached, and that area had some spectacular sponge growth, although photography was marred by a healthy plankton bloom found here (but not on several other dive sites). I would have loved to

## *The mood on Anguilla is everyone is welcome.*

photograph the wreck in crystal-clear water. Because of time constraints, I did not get to explore the second major wreck, the M.V. *Commerce*, a 130-foot freighter also sitting upright and intact but in slightly deeper water.

Another interesting dive site was a shallow reef off Sandy Island. Sandy Island looks like a classic South Seas island with a white sand beach and

windswept palm trees, except someone had decided to build another daytime-only bar/restaurant there. The nearby reef, only about 30 feet deep, has some huge pillar coral and a lovely garden of sea fans that are yellow instead of the usual purple.



Since Tamariain Watersports conducts its two-tank dives in the morning and then usually reserves the afternoon for instruction, that left half of each day to explore Anguilla. On Sunday afternoons, Johnno's at Sandy Ground Village is the place to be. Its barbecue with steel band entertainment attracts people even from St. Martin/Sint Maarten.

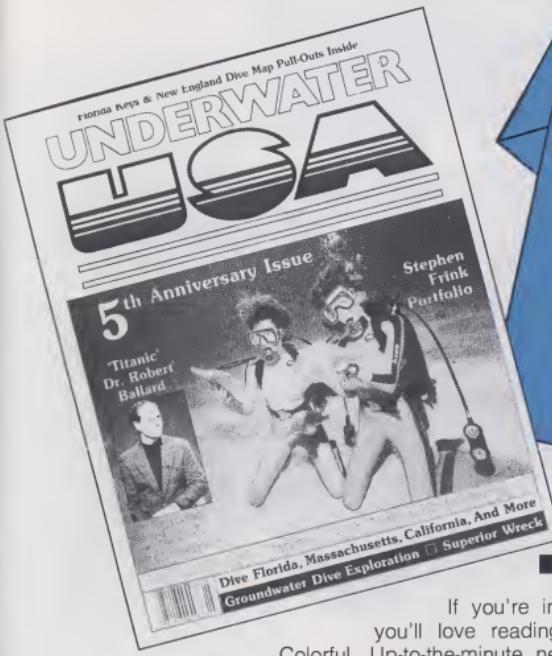
Island Harbour is the fishing center, filled with colorful, locally made dories that are often lined up along the beach. Since the boats generally sail early in search of the day's catch, afternoon is the best time to find them back on the beach in almost a straight row.

Many of Anguilla's wooden homes are as brightly colored as the fishing boats in combinations of red and white, yellow and red, blue and yellow. Some of the older, two-story homes have a very distinctive style of architecture. The first floor is constructed of sand-colored stone blocks brought from the little island of Sombrero, which belongs to Anguilla and lies just over the northern horizon. Traditionally, the second floor of such houses is constructed of wood and usually provides the main living quarters. This is the same style you see in many of the old colonial cottages in the U.S., particularly in places like Savannah.

Even hotel hopping is interesting on Anguilla because of the unusual and very distinctive types of architecture. Moorish-styled Cap Juluca looks like it belongs somewhere in the Middle East; the futuristic-looking Covecastles apartments could be mistaken for a sci-fi movie set.

Actor Chuck Norris' house is right next to Covecastles, out in the open on a public beach for anyone to see. That perhaps sums up the mood on Anguilla where everyone is welcome and everyone soon feels like they belong there.

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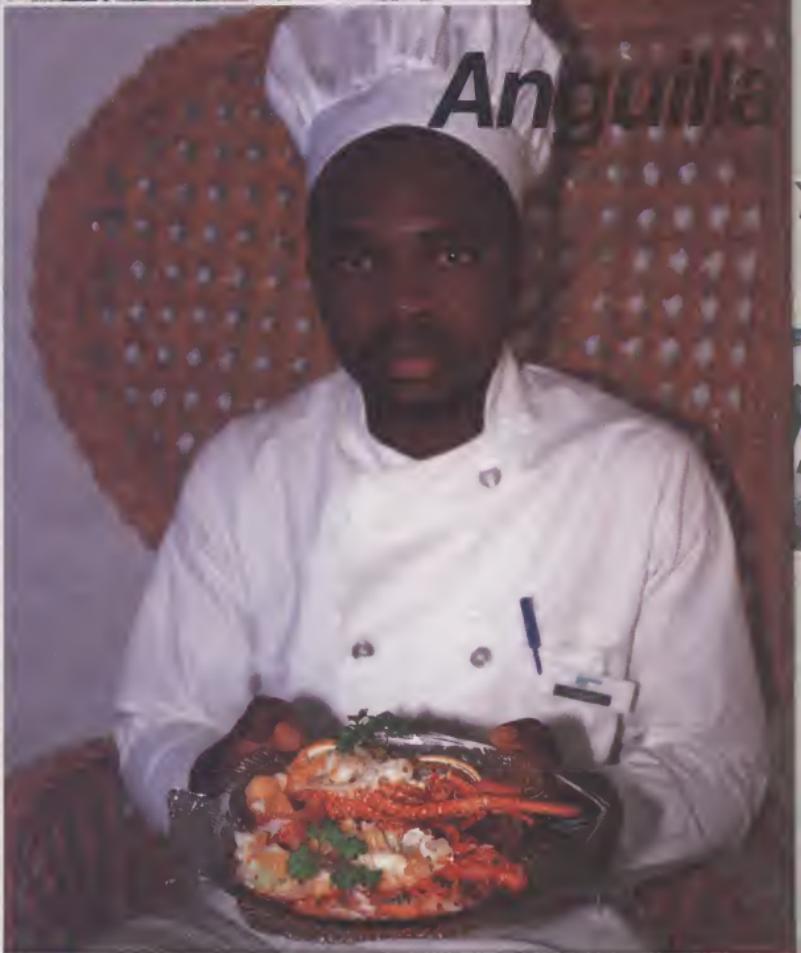
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# Seafood Sampler



**F**or its tiny size, Anguilla has some incredibly good restaurants. The one at Cinnamon Reef Beach Resort offers probably the most consistent fine dining I've enjoyed anywhere in 20 years of traveling throughout the Caribbean. Cocoloba Plantation and Pimm's at Cap Juluca are other excellent restaurants any island would welcome with open arms.

On Anguilla, lobster is as common on menus as chicken and burgers are in the States. It's not surprising, therefore, that many of the following recipes involve the spiny lobster. But Anguillan chefs treat the crustacean in imaginative ways that go far beyond the usual method of simply broiling and serving with clarified butter. On Anguilla, each lobster dish is a unique, memorable experience.

## Cinnamon Reef Beach Resort

The menu at Cinnamon Reef features six to eight different entrees every evening. The same is true for the appetizers, soups, and desserts. Head chef Vernon Hughes, who is only 23, makes every meal a culinary masterpiece. Some of the following methods of

preparation illustrate why.

For an unusual appetizer, try the following (which also makes a good main course lunch salad):

### CUCUMBER & CRAYFISH SALAD

(single serving)

3 oz. diced lobster  
2 oz. diced cucumber  
 $\frac{1}{4}$  lemon

3 T. Cinnamon Reef House Dressing  
Combine crayfish, cucumber, and dressing. Serve on lettuce, garnish with lemon.

The house dressing works well on any salad.

### CINNAMON REEF HOUSE DRESSING

1 tsp. peppercorns  
 $\frac{1}{2}$  T. Dijon mustard  
3 T. sugar  
1 oz. vinegar  
2 garlic cloves  
3 oz. celery stalks  
 $\frac{1}{4}$  tomato  
1 egg  
4 oz. cooking oil  
4 oz. olive oil

Process everything but the oil in a blender or food processor until liquified. While the machine is still running, slowly add oils until well blended. Makes 3 cups.

Here's another excellent appetizer that's actually good enough to be a full meal:

### CURRIED CONCH

(single serving)

3 oz. conch  
3 oz. heavy cream

1 shallot, chopped

$\frac{1}{2}$  tsp. curry powder  
1 oz. white wine  
1 oz. brandy

Flambe conch and shallots with brandy. Add wine, reduce slightly, add cream and curry. Bring to a boil for 2

minutes. Serve en coquille.

### LOBSTER TETRAZZINI

6 oz. diced lobster  
2 oz. sliced mushrooms  
1 oz. chopped shallots  
1 oz. ripe olives  
1 oz. dry sherry  
4 oz. heavy cream  
1 oz. brandy  
 $\frac{1}{2}$  grated boiled egg

With brandy, flambe lobster, mushrooms, olives, and shallots. Add sherry and reduce for 1 minute. Add heavy cream, bring to a boil, and thicken. Serve in lobster shell and garnish with boiled egg.

### KEY LIME PIE

(Guaranteed to be the best you've ever had)

Crust:  $\frac{1}{2}$  cups graham cracker crumbs  
8 T. melted butter  
Mix above together, press into 9-inch pie pan and bake at 350° F. for 15 minutes.  
Filling:  $\frac{1}{2}$  cup lime juice  
1 14 oz. can condensed milk  
2 egg yolks  
Mix well, fill pie shell.  
Meringue:  $\frac{1}{4}$  tsp. cream of tartar  
2 egg whites  
4 T. sugar

Beat until fluffy, put on top of filling. Bake at 325° F. for 15 minutes.

### Cocoloba Plantation

Cocoloba is located on one of Anguilla's finest beaches. Its dining room has a fine view overlooking the sea. There is excellent snorkeling at the base of the cliff on which the restaurant rests. This is Cocoloba's unique method for preparing lobster:



## LOBSTER FROM FOREST BAY

1 small lobster, uncooked  
2 cups white wine  
3 cups olive oil  
1 orange  
1 lemon  
1½ tsp. coriander  
1 bunch parsley  
1 bunch diced carrots  
2 onions  
2 sprigs thyme  
3 bay leaves  
3 chopped celery stalks  
2 cloves  
1 bunch chopped chives  
1 diced tomato  
1 quart water  
1 small pan  
1 stock pot  
salt and pepper to taste

Pour the water and white wine into the stock pot. Let boil for 3 minutes. Add parsley, thyme, bay leaves, cloves, and diced vegetables. Let simmer for 15 minutes. Then add lobster and cook for 4 minutes, remove and cool. Meanwhile, squeeze lemon and orange and add juice and the coriander powder to 1 cup olive oil and whip until foamy.

Remove lobster meat from tail section and discard shell. Chop lobster meat. Heat a small pan with the remaining olive oil. When very hot, put in the chopped lobster tail and sauté for 30 seconds. Remove and place on a warm plate. Add some of the citrus sauce, diced tomatoes, salt and pepper and chopped chives as a garnish on top of the plate and serve hot.

If you begin to get tired of lobster (and I guess that is possible) try the following with salmon, served often in Anguilla's restaurants.

## SALMON SORREL

2 lbs. fresh salmon  
1 cup fish stock  
2 cups heavy cream  
2 shallots  
1 bunch fresh sorrel or 2 tsp. sorrel paste  
1 oz. dry vermouth  
½ lemon  
2 tsp. butter  
peanut oil

Cut salmon into 4 steaks of 8 oz. each. Wash sorrel and cut leaves into 2 or 3 pieces. Chop shallots finely. In saute pan, combine fish stock, white wine, vermouth and shallots. Reduce until almost all liquid evaporates, add heavy cream and boil until sauce is reduced to a syrup-like consistency. Add sorrel for 25 seconds, remove from heat and add butter. Rotate pan until butter is dissolved; do not break sorrel leaf. Add a few drops of lemon juice, salt and white pepper to taste. Brush steaks with oil and cook in non-stick pan 30 seconds on the first side, 15 seconds on the other. Cover bottom of plate with sorrel sauce, then salmon. Absorb grease on top of salmon with paper towel and sprinkle with a bit of salt. Serve immediately. Serves 4.

## Cap Juluca

When Michael J. Fox needed a honeymoon hideaway, he chose Cap Juluca, a Moorish-looking resort that enjoys a secluded private beach. Its Pimms restaurant not only has some very excellent lobster but some very unusual tropical drinks you're not likely to find anywhere else. For that reason, we toast the following:

## MELON DAIQUIRI

¼ cantaloupe  
1 oz. white rum  
12 oz. pineapple juice  
1 oz. sugar cane syrup  
1 tsp. lime juice

Blend all ingredients with ice cubes in a blender. Garnish with a wedge of melon, mint, and a cherry.

## JUNIOR COLADA

1 banana  
1 oz. Bailey's Irish Cream  
dash Coconut Cream  
2 cherries

Blend together in a blender. Pour over crushed ice and drizzle a little green creme de menthe over the top for color.

## DIRTY BANANA

2 oz. dark rum  
1 oz. Creme de Banana  
1 oz. Kahlua  
1 banana

Put in blender with crushed ice. Serve in a cocktail glass garnished with a rondele of banana and a cherry.

## PIMMS HOUSE SPECIAL

2 oz. Pimms Cup #1  
½ can 7-Up  
Pour Pimms over crushed ice in a tall glass. Add 7-Up. Garnish with an orange slice, long wedge of cucumber and sprig of fresh mint.

—M. Timothy O'Keefe

## BAJA

(Continued from page 10)

Returning to the surface, I heard delighted squeals as other free divers encountered whales of their own. It was as if the barrier between humans and marine mammals had come down momentarily, and they were allowing us a brief glimpse into their lives. At the same time, they seemed curious about us. Mothers with calves slowly swam underneath, turning over on their backs for more critical examination.

After about 20 minutes, the whales seemed to tire of our company and continued on their way. For them, it was probably just a brief interlude in a busy day. But for the humans who were allowed to share their world for a while, it was an unforgettable experience.

Most articles about Baja are like this one, discussing dives with huge impressive animals. Consequently, some readers expect too much, and are disappointed if they don't see big fish or marine mammals on every dive. But there is one site that absolutely guarantees marine mammal encounters. It is Los Islotes. A tiny island lying about three miles from El Bajo, Los Islotes is home to a large colony of sea lions. Having seen sea lions regularly on dives off the California coast, I didn't expect to be impressed. But I was wrong. This is the mecca of sea lion encounters; there are so many of them. As most of the action occurs in 10 feet of water and less, long, happy dives are the norm.

In spring, the previous year's pups buzz around like frisky colts while the females keep a watchful eye in the distance. The big bulls show no interest at all in visiting divers. But in summer, when the newborns are still quite helpless, the bulls become more protective. They decoy divers away from the nursing females by swimming between them and their families. When divers venture too close, they charge. These bulls weigh about half a ton, so in a collision, a diver would finish a distant second. Fortunately, they veer off at the last moment.

One persistent bull charged whenever I crossed an imaginary line that marked his territory. If I just barely crossed it, he would swim at me and veer off. This made for some excellent photographs, and he didn't seem to mind the strobe going off in his face. It also provided a rare instance of communication between diver and marine mammal. I felt like a circus lion tamer, getting him to do what I wanted. At the same time, he made it clear that I was allowed to move just so far and no farther. Once, when I moved a little nearer than he wanted, he bared his teeth while zooming by too close for comfort. I wasn't brave enough to at-

tempt that more than once.

Other dive sites near La Paz include the wreck of the ferry *Salvatierra*, the islands of Espiritu Santo, Cerralvo, and Isla Partida. For divers who want to go farther afield, Aguilar can arrange trips on the custom live-aboard, *El Tiburon*. A 57-foot motor yacht, she will accommodate up to eight divers. Her range is well beyond that of day boats, and she makes late autumn trips to the Revillagigedo islands, where manta rays still give rides to divers.

La Paz has been a major city since the 1600s, so change there is almost expected. But Cabo San Lucas was a surprise. It has been transformed from a sleepy village into a jet-age resort with major hotels, condos, and fine restaurants catering to tourists. There is even a slum. A shantytown has grown on the outskirts of town to house construction workers who are building the new facilities.

Prices have risen considerably since 1984, although package deals are still available that can make this an affordable getaway. Diving is a bit more limited in Cabo than in La Paz, with only one outstanding site—the submarine canyon. But dive centers in Cabo offer day trips to two other areas that rank among the best in Baja. These are Gorda Banks and Cabo Pulmo.

We went with Cabo's most experienced operator, Amigos del Mar. Like the La Paz shop, this is run by a Mexican, Jose Luis Sanchez, who earned his college degree in the United States. His full-service dive store offers day trips, live-aboard trips, instruction, sales, service. And like Aguilar, he is a SCUBAPRO dealer.

Sanchez took us aboard the 62-foot motor yacht, *Solmar IV*, to Gorda Banks and Cabo Pulmo. This was a homecoming.

Pilot whales will sometimes allow free divers to get close enough for photos.



ing of sorts, because these spots represented the last of the remote locations that we used to feel were the province of Baja veterans. Cabo Pulmo was once a deserted stretch of white sand beach that could be reached only after a long drive on a rough dirt road. The blacktop now comes within 15 miles, and a number of shacks have been built on the beach. But the reefs provided the greatest surprise. What was once described as the only living coral reef on the west coast of North America is no more. Nearly all the coral has been killed by the cold water of the last two winters. The dead clumps are now overgrown with algae, and a reef background that was once bright and colorful is now a depressing gray and green.

The cause hasn't been the heavy hand of man, but a natural cycle that has likely happened more than once. A few corals survive, and should be able to start new colonies. But corals grow slowly, so it will be a number of years before the Pulmo reefs return to their old grandeur.

On the other hand, the fish life is as rich as ever. The outermost reef, 50-foot deep *El Bajío*, is still populated by vast schools of surgeonfish and chromis. Huge dog snappers still lurk in caves and crevices. Guineafowl puffers, angelfish, Moorish idols, and butterfly fish still roam the reefs. For fish watchers, Cabo Pulmo remains one of Baja's best diving sites.

Gorda Banks is a seamount located about eight miles off the coast of San Jose del Cabo. The reef top lies in about 120 feet of water. Although there are supposed to be shallower spots, I have never been to any. But some of the best diving is at snorkeling depths, especially when a current is running. At these times, it can be the ultimate drift dive.

You never know what to expect in the water column at Gorda Banks. Sometimes schools of big jacks form living whirlpools. At other times, individual bull sharks or hammerheads cruise through. Drifting with a school of hundreds of hammerheads a few years ago remains one of my most vivid diving experiences. In these aggregations, the sharks are never threatening. Quite the contrary, it is possible to approach them only with free diving gear. Scuba bubbles scare them away.

The water column is a safe, easy drift dive for all but novices. Owing to the depth, the seamount is for advanced divers only. These reefs are incredibly rich with invertebrate growth in varieties of colors. Huge bushes of black coral are everywhere. Fish life is a mix of temperate and tropical creatures, including both the California and Mexican lobster, as well as sheepshead and Vieja wrasses.

All sorts of angelfishes are there, including the Clarion Angel, seldom found in Baja.

Looking back over the perspective of 16 years since my first trip, Baja has undergone some profound changes. We can yearn in vain for days gone by, but progress is inevitable. Mexico is a poor country, and development of tourism is one way to stimulate its ailing economy. On land, the pioneer experience has been largely replaced by convenience and luxury. It's more expensive, but that too is the price of progress. Baja of the 1990s is still one of the best places in the world to see a variety of fish, great and small. The animals you encounter haven't been tamed by dive guides, but display their natural behavior. Despite years of fishing, it is still one of the richest seas on earth. Baja California still continues to be one of the world's premier diving destinations.

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## authorized dealers



*Most shops listed offer sales, service, rentals, instruction and tank refills. Please call for specific information.*

Illustration by Nick Fain

### ALABAMA

**Capitol Dive Center**  
5163 Atlanta Hwy.  
Montgomery 36109  
(205) 279-8002  
Tuesday-Friday: 10 to 6  
Monday: 12 to 6  
Saturday: 10 to 5  
**Hydro Space Scuba School**  
1605 South Gates  
Dothan 36301  
(205) 793-3271  
Monday-Friday: 10 to 5:30  
Saturday: 9 to 3  
**Ski & Scuba**  
628 15th Street East  
Tuscaloosa 35401  
(205) 578-3900  
Hours: 9 to 6  
**Tropical Outfitters Dive Shop**  
5000 University  
Montgomery 36111  
(205) 284-9702  
Tuesday-Saturday: 10 to 6

### ALASKA

**Alaska Mining & Diving Supply Inc.**  
3222 Commercial Dr.  
Anchorage 99501  
(907) 277-1741  
Monday-Saturday: 9 to 6  
**Don's Dive Shop**  
106 Forest Dr.  
Kodiak 99615  
(907) 283-5109  
Monday-Saturday: 10 to 6  
**The Scuba Tank**  
9328 Glacier Highway #47  
Juneau 99803  
(907) 789-5115  
Monday-Friday: 10 to 7  
Saturday & Sunday: 10 to 5  
**Sunshine Sports**  
1231 W. Northern Lights Blvd.  
Anchorage 99501  
(907) 727-2222  
Monday-Friday: 9:30 to 8  
Saturday: 9:30 to 8  
Sunday: 12 to 5

### ARIZONA

**Aqua Sport, Inc.**  
4230 E. Indian School Rd.  
Phoenix 85006  
(602) 955-4120  
Monday-Friday: 9 to 6  
Saturday: 9 to 5  
**Arizona Divers Supply**  
2348 N. 7th St.  
Phoenix 85006  
(602) 253-6622  
Monday-Thursday: 10 to 7  
Friday & Saturday: 10 to 6  
Closed on Sunday  
**Desert Divers of Tucson**  
3550 N. 1st Ave. Ste. 140  
Tucson 85719  
(602) 887-2822  
Monday-Friday: 10 to 6  
Saturday: 10 to 3  
**Scuba Sciences, Inc.**  
8502 N. Black Canyon Hwy.  
Phoenix 85051  
(602) 955-2226  
Monday-Thursday: 10 to 8  
Friday & Saturday: 10 to 6  
**Tucson School of Diving**  
3575 E. Speedway  
Tucson 85716  
(602) 795-1440  
Tuesday-Saturday: 10 to 7  
**Water Sports Centers Inc.**  
1000 McCulloch  
Lake Havasu City 86403  
(602) 855-2141

### ARKANSAS

**Rick's Pro Dive 'N Ski Shop Inc.**  
2323 N Poplar  
N. Little Rock 72114  
(501) 753-6004  
Monday-Friday: 10 to 8  
Saturday: 10 to 6

**SportsCo-Scuba Hut**  
2007 W. Sunset  
Springdale 72764  
(501) 751-0636  
Monday-Saturday: 9 to 6

### CALIFORNIA

**American Diving**  
1901 Pacific Coast Hwy.  
Lomita 90717  
(213) 326-6663  
Daily: 10 to 7  
**Aqua Adventures Unlimited**  
2120 West Magnolia  
Burbank 91506  
(818) 848-2163  
Monday-Friday: 10 to 7:30  
Saturday: 10 to 5  
**Aqua Adventures**  
2172 Pickwick Ln.  
Camarillo 93010  
(805) 484-1594  
Monday-Friday: 10:30 to 6  
Saturday: 9:30 to 7

**Aqua Ventures**

1001 S. Harbor Blvd.  
Oxnard 93030  
(805) 985-8861

Monday-Thursday: 10:30 to 6

Fri. & Sat.: 9 to 6:30

**Aquarius Dive Shop**

2240 Del Monte Ave.  
Monterey 93940  
(408) 375-1933

Monday-Friday: 9 to 6

Sat. & Sun.: 7 to 6

For Guided Tours of Monterey

Call: 1-800-833-9992

**Aquarius Dive Shop**

#32 Cannery Row, Unit #4  
Monterey 93940  
(408) 375-6605

Mon., Wed. - Fri.: 9 to 6

Sat. & Sun.: 7 to 6

Closed Tuesday

**Aquatic Center**

455 W. Coast Highway  
Newport Beach 92660  
(714) 650-5400

Monday-Thursday: 9 to 6

Friday: 9 to 7

Saturday & Sunday: 8 to 6

**Big City Scuba**

1720 North El Camino Real  
San Clemente 92672  
(714) 490-0069

Monday-Thursday: 10 to 6

Friday: 10 to 7

Saturday: 6 to 2

**Bob's Dive Shop**

4374 N. Blackstone Ave.  
Fresno 93726  
(209) 225-DIVE

Monday-Friday: 11 to 7

Saturday: 10 to 7

Sunday (Summer): 9 to 6

**Cal Aquatics/Scuba Luv**

22725 Pacifica Blvd.  
Woodland Hills 91364  
(818) 346-4799

Hours: 10 to 6

**Cal School of Diving**

1750 6th St.  
Berkeley 94710  
(415) 524-3248

Monday-Friday: 10 to 6

Saturday: 9 to 10

**Catalina Divers Supply**

On The Pier

Avalon 90704

(213) 510-0320

**Colo-Riv'l Divers & Supply**

2001 De Soto

Needles 92363

(714) 326-3232

**D.D.B. Dive Shop**

PO Box 5429

Rancho Dominguez 90221

Monday-Friday: 10 to 9

Depth Perceptions

**Diving Services**

1325 #3 Blvd.

Los Osos 93402

(805) 528-1070

Monday-Friday: 6 to 11 p.m.

Sat. & Sun.: 6 to 6

**Dive West**

115 W. Main St.

Santa Maria 93454

(805) 925-5878

Monday-Saturday: 10 to 6

Sunday: 12 to 6

**Diver's Corner**

12045 Paramount Blvd.

Downey 90242

(213) 689-7702

Monday-Friday: Sat.: 9 to 6

Tues., Thurs.: 9 to 9

Sunday: 12 to 5

**Divers Supply of**

Santa Barbara County

5822 Hollister Ave.

Golita 93117

(805) 964-0180

Monday-Friday: 10 to 6

Saturday: 10 to 5:30

**Divers West**

2333 E. Foothill Blvd.  
Pasadena 91107  
(618) 796-4287

Tuesday-Friday: 10 to 7

Saturday: 9 to 6

**The Diving Locker**

1020 Grand Ave.  
San Diego 92109  
(619) 272-1120

Monday-Friday: 9 to 7

Sat. & Sun.: 8 to 5

**The Diving Locker**

945 West Valley Pkwy., Suite L  
Escondido 92025  
(619) 746-9890

Monday-Friday: 10 to 7

Saturday: 9 to 5

**The Diving Locker**

405 N. Hwy. 101  
Solana Beach 92075  
(619) 755-6822

Monday: 10 to 6

Tuesday-Friday: 9 to 6

Sat. & Sun.: 8 to 5

**Far West Marine Center**

2941 Willow Lane  
Thousands Oaks 91361  
(805) 495-3600

Monday-Friday: 9 to 6

Saturday: 9 to 5

**Far West Marine Center**

1733 Los Angeles Ave.  
Simi Valley 93065  
(805) 583-3483 (DIVE)

Daily: 10 to 6

**Gold Coast Scuba**

955 E. Thompson Blvd.  
Ventura 93001  
(805) 652-0321

Daily: 10 to 6

**Howell's Dive Shop**

1426 Eureka Way  
Redding 96001  
(918) 241-1571

Monday-Saturday: 8 to 6

**Innerspace Divers**

1035 E. Colorado Charter  
Bakersfield 93308  
(805) 399-1425

Monday-Friday: 10 to 6

Saturday: 10 to 3

**Island Marine & Sporting Goods**

124 Catalina Ave.  
Avalon 90704  
(213) 510-0238

Daily: 9 to 4

**La Jolla Divers Supply**

7522 La Jolla Blvd.  
La Jolla 92037  
(619) 459-2691

Monday-Friday: 9 to 6

Saturday: 8 to 6

Sunday: 8 to 5

**Malibu Divers**

2123 Pacific Coast Hwy.  
Malibu 90265  
(213) 456-2396

Monday-Friday: 10 to 6

Sat. & Sun.: 10 to 6

**Marina Del Rey Divers**

2539 Lincoln Blvd.  
Marina Del Rey 90291  
(213) 827-1131 CA only

1-800-227-9042 Others

Friday, Saturday: 10 to 7:30

Sunday: 10 to 4:00

**Motherland Skin Diving**

2020 "H" St.  
(916) 446-5614

Monday-Friday: 9 to 6

Saturday: 10 to 4

**NAPA Gun & Dive Exchange**

950 Randolph St.  
Napa 94559  
(707) 255-3900

Monday-Saturday: 9 to 6

**Olympic Scuba Schools**

2595 N. Main St.  
Walnut Creek 94596  
(415) 933-8045

Monday-Friday: 10 to 6

Saturday: 10 to 5:30

**Openwater Habitat**

411 South Main St.

Orange 92669

(714) 744-8355

Monday-Friday: 11 to 8

Saturday: 10 to 6

Sunday: 12 to 4

**Outrigger Dive Shop**

2110 Winchester Blvd.

Campbell 95028

(408) 374-8411

Monday-Friday: 10 to 7

Saturday: 9 to 5:30

**Pacific Coast Divers**

3809 Plaza Drive, Suite 108

Oceanside 92056

(619) 726-7050

Daily: 10 to 7

**Pacific Sporting Goods**

1139th Pl.

Long Beach 90803

(213) 434-1604

Monday-Friday: 10 to 6:30

Friday: 10 to 7, Sat.: 9 to 6

Sunday: 9 to 5

**Pacific Wilderness & Ocean Sports**

1719 S. Pacific Ave.

San Pedro 90731

(213) 833-2422

Monday-Thursday: 10 to 8:30

Friday: 10 to 7, Sat.: 10 to 6

Sunday: 9 to 5

**The Pinnacles Dive Center**

875 Grand Ave.

Novato 94945

(415) 897-9962

Monday-Friday: 10 to 7

Sat. & Sun.: 8 to 4

**The Pinnacles Dive Center**

2112 Armory Dr.

Santa Rosa 95401

(707) 542-3100

Monday-Friday: 10 to 7

Sat. & Sun.: 8 to 4

**Reef Seekers Dive Company**

8642 Wilshire Blvd.

Brentwood 94513

(213) 652-4990

Monday-Friday: 10 to 7

Saturday: 10 to 6

Sunday: 12 to 5

**San Diego Divers Supply**

4004 Sports Arena Blvd.

San Diego 92110

(619) 224-3439

Monday-Friday: 9 to 7

Friday: 9 to 9

Sat. & Sun.: 8 to 6

**Scuba Adventures**

1039 Grand Ave.

Arroyo Grande 93420

(805) 773-3483 or (805) 473-1111

Daily: 8 to 6

**Scuba Cal USA**

15 Tennessee St.

Valley 94590

(707) 649-9320

Monday-Friday: 10 to 6

Saturday: 10 to 4

**Scuba Duds Dive Shop**

7126 Reseda Blvd.

Reseda 91335

(818) 881-4545

Monday-Saturday: 10 to 7

**Scuba Haus**

2501 Wilshire Blvd.

Santa Monica 90403

(213) 828-2916

Monday-Friday: 10 to 6

Friday: 10 to 7

Sat.: 10 to 6, Sun.: 12 to 5

**Scuba Toys**

9547 Valley View Ave.

Cypress 90630

(714) 527-0430

Monday-Thursday: 10 to 7

Friday: 10 to 9

Saturday: 10 to 9:30

Sunday: 12 to 6:30

**Sea to Sea**

985 S. Mt. Vernon Ave., Suite D

Colton 92324

(714) 255-2502

Monday-Friday: 10 to 7

Saturday: 9 to 5

Closed Sunday

**Ski and Sports**

1802 E. Katella Ave.

Orange 92667

(714) 633-1880

Monday-Friday: 10 to 9

Saturday: 10 to 6

Sunday: 10 to 5

**Southern Calif. Diving Center**

1121 S. Glendora Ave.

West Covina 91790

(818) 338-8863

Monday-Saturday: 9 to 7

**Sport Diving West, Inc.**

11501 Whittier Blvd.

Whittier 90601

(213) 692-7373

Monday-Fri.: 10 to 8

Saturday: 10 to 6

Sunday: 10 to 5

**St. Thomas Diving**

5640 No. Blackstone

Fresno 93610

(209) 488-9980

Mon. & Fri.: 10 to 7

Tues. Wed. & Thurs.: 10 to 6

Saturday: 10 to 5

Closed Sunday

**Stan's Skindiving**

554 S. Bascom St.

San Jose 95128

(408) 294-7717

Monday-Thursday: 10 to 6:30

Friday: 10 to 8

Saturday: 10 to 6

Sunday: 11 to 5

**Tri Valley Scuba School, Inc.**

21310 San Ramon Valley Rd.

San Ramon 94583

(415) 226-5640

Monday-Friday: 11 to 6

Saturday: 10 to 4

Closed Sunday

**Valley Aquatics**

2200 Mission Viejo Ave. #C

Modesto 95350

(209) 527-2822

Monday-Saturday: 10 to 8

Closed Sunday

**COLORADO**

**Denver Divers Supply**

557 Milwaukee  
Denver 80206  
(303) 398-2377

Monday-Friday: 10 to 7  
Saturday: 10 to 6

**Diver's Reef**

3014 N. Nevada  
Colorado Springs 80907  
(303) 634-3366

Monday-Saturday: 10 to 6

**Leisure Diving**

80 S. Havana St. #817  
Aurora 80012

(303) 344-0414

Monday-Friday: 10 to 7

Saturday: 10 to 5

**CONNECTICUT****Niantic Water Sports**

283 Main St.  
Niantic 06357

(203) 739-9596

Summer: Monday-Saturday: 10 to 7

Sunday: 10 to 3

Fall-Tuesday-Friday: 12 to 6

Saturday: 10 to 6

**DISTRICT OF COLUMBIA****National Diving Center**

1930 Wisconsin Ave., N.W.  
Washington, D.C. 20016

(202) 363-6123

Monday-Friday: 9 to 7

Saturday: 9 to 5

**FLORIDA****ABC Sports Inc.**

1915 Unhurt

Ft. Myers 33901

(813) 334-4616

Monday-Friday: 10 to 5:30

Saturday: 10 to 3

**Adventure Scuba**

150 N. U.S. Hwy. 1

Tequesta 33456

(305) 746-1555

Monday-Friday: 10 to 6

Saturday: 8 to 6

Sunday: 8 to 3

**American Diving****Headquarters Inc.**

Route 1, Box 274B

Key Largo 33037

(305) 451-0037

Daily: 7:30 to 6

**American Scuba****and Water Sports**

7115 U.S. Hwy. 19

New Smyrna Beach 34652

(813) 948-0885

Daily: 9 to 6

**Aquanautes South**

903 S.W. 87th Ave.

Miami 33174

(305) 262-9295

Monday-Saturday: 9 to 7

**AquaShop**

505 Northgate Blvd.

North Palm Beach 33408

(305) 848-9042

Monday-Friday: 9:30 to 6:30

Saturday: 7 to 6

Sunday: 7 to 4

**Aquatic Center**

3564 S.W. Archer Rd.

Gainesville 32608

(904) 377-DIVE

Monday-Friday: 10 to 7

Saturday: 10 to 5

Closed Sunday

**Blue Horizons**

705 S.H. 19, #120

Okeechobee 34977

(813) 854-2298

Monday-Friday: 9 to 8

Saturday: 8 to 8

Sunday: 8 to 8

**Buddy's Dive Shop**

Mile Marker 85 US 1, P.O. Box 409

Islamorada 33036

1-800-367-4707 In Florida

1-800-223-4707 Others

Daily: 8 to 6

**Dive Shop II**

Sea Mist Marina  
700 Casa Linda Hwy.  
Boynton Beach 33435

(305) 734-5566

Monday-Friday: 9 to 7

Saturday & Sunday: 8 to 5

**The Diving Locker**

223 Sunny Isl. Blvd.  
North Miami Beach 33160

(305) 947-6025

Monday-Saturday: 9 to 9:30

Sunday: 9 to 6

**Good Time Divers and Sports**

5724 S.E. Absher Blvd.  
Belle Glade 33420

(904) 245-5711

Daily: 9 to 6

**Gulf Coast Pro Dive**

6702 Highway 98 West  
Pensacola 32505

(904) 456-8845

Monday-Thursday: 9 to 7

Friday & Saturday: 6 to 7

Sunday: 7 to 12

**Hill's Dive Shop**

1999 Seawall Drive  
Sanibel 33950

(305) 743-5929

Daily: 9 to 6

**Key West Pro Dive Shop, Inc.**

1605 N. Roosevelt Blvd.  
Key West 33040

(305) 296-3823

Monday-Thursday: 10 to 6

Friday: 10 to 9

Saturday: 9 to 6

**Panama City Dive Center**

4823 Thomas Dr.  
Panama City 32408

(904) 235-3390

Daily: 9 to 6

**Scuba Shop**

348 Miracle Strip Parkway #19  
Fort Walton Beach 32548

(904) 483-1600 ext 243-3373

Sunday-Friday: 9 to 5

Saturday: 8 to 6

**Scuba-Ski Inc.**

118 9th St., South  
Naples 33940

(813) 262-7389

Monday-Saturday: 10 to 6

**Sea Center Dive Shop**

M.M. 29 1/2 Rt. U.S. 1

Big Pine Key 33043

(305) 872-2319

Daily: 8 to 6

**Skippers Snorkeling & Scuba**

409 S. Wright St.  
Pensacola 32501

Summer: Daily 9 to 6

Winter: Monday-Saturday: 9 to 6

**Vortex Springs**

Route 2, Box 18A  
Ponce de Leon 32455

(904) 836-4976

Monday-Thursday: 7:30 to 5

Friday-Sunday: 7 to 7

**GEORGIA****Charbon's Specialty Sports**

850 Hawthorne Ave.  
Athens 30606

(404) 548-7225

Saturday & Wednesday: 9:30 to 6

Thursday & Friday: 9:30 to 8

**Dive, Dive, Dive...**

2131 Pleasant Hill Rd.  
Duluth 30136

(404) 476-7833

Monday-Saturday: 10 to 7

Closed Sunday

**Diving Locker/Ski Chalet**

74 W. Montgomery Cross Rd.  
St. Simons Island 31522

(912) 927-6603 or 6604

Monday-Friday: 10 to 6

Saturday: 10 to 5

**Garrard Dive Educators, Ltd.**

2555 Delk Rd.  
Marietta 30067

(404) 984-0922

Monday-Saturday: 10 to 9

**Golden Isles Dive and Ski**

2907 Cypress Mill Rd.  
Brunswick 31520

(912) 264-1411

Monday-Friday: 10 to 8

Saturday: 10 to 5

**Island Dive Center**

1610½ Frederic Rd.

St. Simons Island 31522

(912) 658-5950

Monday-Saturday: 10 to 6

**Planet Ocean Scuba Center**

Windsor Village Shopping Center

Columbus 31909

(404) 563-8875

Monday-Friday: 10 to 6:30

Saturday: 10 to 5

**Seasports, Inc.**

11240 Alpharetta Hwy. #200

Roswell 30076

(404) 664-9176

Monday-Tuesday & Friday: 11 to 7

Thursday: 11 to 6

Saturday: 10 to 6

**The Dive Shop**

2401 B-1 Dawson Rd.

Albion 31707

(912) 436-3033

Monday-Saturday: 8 to 6

Closed Sunday

**HAWAII****Central Pacific Divers**

CIO Century Investments

181 Lahaina Rd., Suite 1

Lahaina, Maui 96761

(808) 661-4661

Daily: 10 to 6

**Fair Winds, Inc.**

757-1281 Kailoaapeka Rd.

Kailua-Kona 96740

(808) 322-2786

Daily: 7 to 5

**Jack's Diving Locker**

PO Box 5306

Coconut Grove Marketplace

Kailua-Kona 96745

(808) 329-7585

(800) 345-5907

Daily: 9 to 9

**Kohala Divers, Ltd.**

PO Box 4935

Kawaihae 96743

(808) 882-7774

Daily: 8 to 5

**Kona Coast Skin Diver Ltd.**

75-5614 Pelani Rd.

Kailua-Kona 96740

(808) 809-8800

Daily including holidays: 7 to 6

**Lahaina Divers**

182 Lahaina Rd.

Lahaina, Maui 96761

(808) 651-4505

Daily: 8 to 9:30

**Maui Dive Shop**

Azeka Place Shopping Center

Kihei 96753

(808) 879-3386

Daily: 8 to 9

**Ocean Activities Center**

3750 Walea Alanui D2

Wailea, Maui 96753

(808) 679-4845

Daily: 10 to 7

**Ocean Adventures**

406 Kam Hwy.

Pearl City, Oahu 96782

(808) 487-9060

Monday-Saturday: 8 to 6

Sunday: 8 to 4

Closed Wednesday

**Rainbow Divers**

1652 Wilikina Dr.

Wahiawa, Oahu 96786

(808) 622-4535

Monday-Friday: 9 to 6

Sat. & Sun.: 8 to 6

**Sea Sage**

4-1378 Kuhio Hwy.

Waimea 96746

(808) 822-3841

Daily including holidays: 8:30 to 5

**IDAHO****Dive Magic**

239 N. Meridian, N.

Falls 83301

(208) 733-1979

Monday-Friday: 9 to 5

**The Scuba Diving Co.**

3707 Overland Road

Boise 87028

(208) 343-4470

Daily: 9 to 6:30

**ILLINOIS****Do Dive In**

901 N. University

Peoria 61615

(309) 692-7600

Monday-Wednesday: 10 to 1

Tuesday-Thursday: 10 to 1

Saturday: 9 to 5

**Illinois Skin Diving Schools of America**

1900 N. Lake St., Rt. 31

Aurora 60505

(312) 896-1113

Monday-Friday: 10 to 8

Tuesday & Thursday: 10 to 9

Saturday: 10 to 4

**INDIANA****Divers Supply Company, Inc.**

331 N. University St.

Indianapolis 46208

(317) 923-5335

Mon., Wed. & Fri.: 9 to 7:30

Tues. & Thurs.: 9 to 5:30

Saturday: 9 to 5

**Divers World**

1271 E. Morgan Ave.

Evensville 47711

(812) 423-2738

Sunday: 10 to 6

**Louisville Dive Shop**  
2478 Bardstown Rd.  
Louisville 40205

(502) 458-8427  
Monday-Friday: 11 to 7  
Saturday: 11 to 5

**Nemo's Dive Shop**  
Owls Nest Rd.  
Hyden 41749

(606) 678-1552  
Monday-Friday: 12 to 7  
Saturday: 9 to 6

## **LOUISIANA**

Divers Destination of Louisiana  
2010 Bayou St. Rd.  
Lafayette 70506

(318) 984-4678  
Monday-Saturday: 10 to 6

**Houma Watersports**  
3219 W. Main  
Houma 70360

(504) 879-2900  
Monday-Friday: 10 to 6  
Saturday: 10 to 3

**Sea Horse Diving Academy**  
7126 Chef Menteur Highway  
New Orleans 70127

(504) 246-6523  
Monday-Friday: 11 to 7  
Saturday: 10 to 6

## **Seven Seas**

7865 Jefferson Highway  
Baton Rouge 70809

(504) 926-1819  
Monday-Saturday: 9:30 to 5:30

**The Water Habitat, Inc.**  
1602 Jackson St.  
Alexandria 71301-0442

3101 N. 1st St.  
Mon., Wed., & Fri.: 10 to 6  
Saturday: 10 to 5

**The Water Habitat, Inc.**  
317 Frost St.  
Leesville 71448

(318) 238-0709  
Monday-Friday: 10 to 6  
Saturday: 8 to 4

## **MAINE**

**Aqua Diving Academy**  
1183 Congress St.  
Portland 04102

(207) 772-4200  
Monday-Friday: 10 to 6  
Saturday: 10 to 5

**Skin Diver's Paradise**  
792 Main St.  
Auburn 04210

(207) 782-7739  
Monday-Friday: 2 to 9  
Saturday: 7 to 6

## **MARYLAND**

**Bethany Water Sports**  
3220 Corporate Ct., Suite G  
Ellicot City 21043

(301)461-DIVE  
Monday-Friday: 12 to 7  
Saturday: 11 to 5

## **Divers Den Inc.**

8105 Harford Rd.  
Baltimore 21234

(301) 988-6865  
Mon., Wed., Thurs., & Fri.: 9:30 to 9  
Wed. & Sat.: 9:30 to 5

**The Scuba Hut, Inc.**  
139 Delaware Ave.  
Glen Burnie 21061

(301) 761-4520  
Mon., Wed., & Fri.: 10 to 8  
Tuesday & Saturday: 10 to 6

**Tide Water Aquatics**  
1315 Forest Dr.  
Annapolis 21403

(301) 268-1992  
Monday-Friday: 12 to 7  
Saturday: 11 to 5

## **MASSACHUSETTS**

**Aquarius Diving Center Inc.**  
3236 Cranberry Hwy.

Buzzards Bay 02532  
(508) 759-DIVE  
Monday-Friday: 10 to 7  
Saturday: 8 to 4

**Merrimack Aquatic Center**

171 Merrimack St. Route 110  
Methuen 01844

(508) 688-5566  
Monday-Friday: 11 to 7  
Saturday: 10 to 4

**Ultramarine Divers**

101 Commonwealth Ave.  
Concord 01742

(508) 369-1154  
Daily: 10 to 8

**United Divers, Inc.**

59 Washington St.  
Somerville 02143

(617) 666-0410  
Monday-Friday: 10 to 8,  
Saturday: 9 to 6

**Whaling City Diving Center**  
#48 Popes Island Road, Rt. 6

New Bedford 02740  
(617) 992-2662  
Monday-Friday: 10 to 8

Saturday: 9 to 6  
Summer/Sunday: 9 to 4

## **MICHIGAN**

**Divers Incorporated**  
3380 Washtenaw Ave.  
Ann Arbor 48104

(313) 971-7771  
Monday-Friday: 10 to 8  
Saturday: 10 to 5

Closed Sunday & Sunday

**The Dive Shop**

G 4200 Corunna Rd.  
Flint 48532

(313) 732-3900  
Monday-Saturday: 9 to 6  
Late Appointments Available

**The Dive Site**

9125 Portage Rd., Suite A  
Kalamazoo 49002

(616) 323-3700  
Monday-Friday: 10 to 7  
Saturday: 10 to 5

**Recreational Diving Systems**

4424 N. Woodward  
Royal Oak 48072

(313) 549-0303  
Monday-Friday: 10 to 7  
Saturday: 10 to 5

**Scuba North, Inc.**

1338 W. Bayshore Dr.  
Traverse City 49684

(616) 947-2500  
Monday-Friday: 9 to 6

Friday-Saturday: 9 to 7  
Sunday: 10 to 5  
(Winter) Mon.-Sat.: 10 to 6

**The Scuba Shack**

9982 W. Higgins Lake Dr.  
Higgins Lake 48627

(517) 821-6477  
(Summer) Monday-Friday: 9 to 6  
Saturday & Sunday: 8 to 8

**Seauatics, Inc.**

9700 W. 10th Rd.  
Midland 48940

(517) 835-6391  
Monday-Friday: 10 to 6

Saturday: 10 to 5  
**Skamt Shop**

5055 Plainfield N.E.  
Grand Rapids 49505

(616) 364-8418  
Monday, Wednesday, Friday: 10 to 9

Tuesday, Thursday, Saturday: 10 to 6  
**Tom & Jerry's Skin & Scuba Shop**

20318 Van Buren Ave.  
Dearborn Heights 48125

(313) 278-1124  
Monday-Friday: 11 to 7  
Saturday: 11 to 5

## **ZZ Under Water World, Inc.**

1806 E. Michigan Ave.  
Lansing 48912

(517) 485-3894  
Monday-Friday: 10 to 7

Saturday: 10 to 5

## **MINNESOTA**

**Central Minnesota Divers**

102 E. St. Germain

St. Cloud 56301

(612) 252-7572

Monday-Friday: 10 to 7

Saturday: 9 to 5

**Club Scuba East**

3035 White Bear Ave.

Maplewood 55109

(612) 779-5500

Monday-Friday: 10 to 8

Saturday: 10 to 5

(Summer) Sunday: 9 to 1

**Club Scuba West**

1300 E. Wayzata Blvd.

Wayzata 55391

(612) 473-4266

Monday-Friday: 10 to 8

Saturday: 10 to 5

(Summer) Sunday: 9 to 1

**Fantasia Scuba**

Located just 10 minutes

from the Minneapolis

International Airport

(612) 890-0016 (612)-890-3483)

Monday-Friday: 10 to 8

Saturday & Sunday: 10 to 6

## **MISSISSIPPI**

**Out and Under**

1200 Roebuck Dr.

Meridian 39301

(601) 693-5827

Monday-Saturday: 10 to 6

## **MISSOURI**

**Academy of Scuba Training, Inc.**

437 Broadway

Cape Girardeau 63701

(314) 335-0756

Monday-Friday: 9 to 6

Saturday: 9 to 5

**Aquasports, Inc.**

5505 S. 10th St.  
Springfield 65807

(417) 883-5151

Monday-Friday: 9 to 7

Saturday: 9 to 5

**Captain Nemo's Dive Shop**

1414 V. Rangeline

Columbia 65201

(314) 442-3483

Monday-Friday: 10 to 6

Saturday: 10 to 5

**Divers Village**

P.O. Box 329 Lake Rd. West 20

Lake Ozark 65049

(314) 365-1222

Daily: 9 to 5

**Table Rock State Park Marina**

S.R. 1, Box 911

Branson 65616

(417) 334-3069

Daily: sunrise to sunset

Not: February 1st, open by appt.

**The Dive Shop North**

9155 Northgate Dr.

Kansas City 64118

(816) 436-5448

Monday-Friday: 10 to 7

Saturday: 10 to 5

**NEBRASKA**

**Big Mac Scuba & Sail**

4711 Huntingdon St., Suite #1

Lincoln 68503

(402) 466-8404

Wednesday-Saturday: 10 to 5

Sunday: 11 to 5

**Divestar**

2322 North 72nd St.

Omaha 68134

(402) 991-1155

Monday-Thursday: 12 to 7

Friday: 10 to 7, Friday: 10 to 8

Saturday: 10 to 5

## **Mid Coast Divers Supply**

8831 Maple Street

Omaha 68134

(402) 391-1554

Monday-Saturday: 10:30 to 6

## **NEVADA**

**Desert Divers Supply**

5720 E. Charleston Blvd.

Las Vegas 89122

(702) 438-1000

Monday-Friday: 9 to 8

Saturday & Sunday: 10 to 6

Wednesday: 9 to 9:30

Saturday: 10 to 5

## **NEW HAMPSHIRE**

**Atlantic Aqua Sports**

522 Sagamore Rd.

Rye 03877

(603) 436-4443

Daily: 8 to 5, Closed Tues.

## **NEW JERSEY**

**Cedar Grove Divers Supply**

492 Pompton Ave., Route 23

Cedar Grove 07009

(201) 857-1748

Tuesday-Friday: 12 to 9

Saturday: 10 to 5

Closed Sunday & Monday

## **Chatham Water Sports**

9 North Passaic Ave.

Chatham 07928

(201) 835-5313

Monday-Friday: 12 to 9

Saturday: 10 to 5

Elite Divers

Birchtree Plaza, Route 46

Rockaway 07866

(201) 586-2214

Monday-Friday: 11 to 9

Saturday: 10 to 5

Professional Divers, Inc.

70 Hwy. 35

Neptune City 07753

(201) 775-3229

Monday-Friday: 11 to 8

Saturday: 10 to 6

Sunday: 10 to 1

## **Whitehouse Aquatic Center**

6 Hwy. 22 East

Whitehouse Station 08889

(201) 534-4090

Monday-Saturday: 10 to 8

Sunday: 10 to 2

## **NEW MEXICO**

**New Mexico School of Diving**

4010 E. Main St.

Farmington 87401

(505) 325-2728

Monday-Saturday: 10 to 6

Sunday: 9 to 6

Sunday: 12 to 5

## **New Mexico Scuba Center**

2529 San Mateo N.E. #9

Albuquerque 87110

(505) 884-6776

Monday-Friday: 10 to 8

Saturday: 9 to 6

Sunday: 12 to 5

## **NEW YORK**

**Cougar Sports**

97 Saw Mill River Rd.

Ardsley 06509

(914) 893-8877

Monday-Wednesday: 10 to 6

Thursday: 10 to 7, Friday: 10 to 8

Saturday: 10 to 5

**King County Divers Corp.**

2417 Avenue U  
Brooklyn 11229  
(718) 648-4232 & 934-4153  
Monday-Friday: 2 to 9  
Saturday: 10 to 9

**National Aquatic Service, Inc.**

732 Erie Blvd, East

Syracuse 14010

(315) 479-5544

Monday-Friday: 9 to 5

Saturday: 9 to 4

**Pan Aqua Diving**

166 W. 75th St.

New York 10023

(212) 496-2287

Sunday-Friday: 12 to 7

Saturday: 10 to 7

**Professional Scuba Center**

5777 Camp Rd.

Hempstead 11541

(716) 648-5483

Mon., Wed., &amp; Sat.: 10 to 5:30

Tues., Thurs., &amp; Fri.: 10 to 8:30

**Suffolk Diving Center**

58 Larksfield Rd.

E. Northport 11731

(516) 261-4384

Monday-Thursday: 10 to 6

Fri.: 10 to 8; Sat.: 10 to 6

Sunday: 10 to 3

**Swim King Dive Shop**

Rte. 25A

Rocky Point 11778

(516) 744-7707

Monday-Friday: 10 to 7

Saturday: 8 to 6

Sunday: 8 to 12

**Underwater World, Inc.**

3028 Merrick Road

Wantagh 11793

(516) 679-7093

Monday-Saturday: 1 to 8

Closed Sunday

**NORTH CAROLINA****Blue Dolphin Dive Shop**

1000 N.C. Hwy.

Thomasville 27360

(919) 475-2516

Monday-Thursday: 10 to 7

Friday: 10 to 9

Saturday: 8 to 6

**Olympus Dive Charters**

713 Shepard St.

Morehead City 28557

(919) 726-9432

Daily: 10 to 6:30

**Parsnip Divers**

2600 South Blvd.

Charlotte 28229

(704) 525-9234

Monday-Friday: 9 to 6:30

Saturday: 9 to 6

**Reef & Ridge Sports**

532 E. Chairman St.

Cary 27511

(919) 467-3631

Monday-Friday: 11 to 6:30

Saturday: 10 to 3

**Rum Runner Dive Shop Inc.**

2905 East 5th St.

Greenville 27858

(919) 758-1444

Monday-Friday: 10 to 5

**Wilmington Scuba, Inc.**

5028-1 Wrightsville Ave.

Wilmington 28403

(919) 799-0868

Monday-Saturday: 9 to 6

Sunday: 1 to 6

**OHIO****Buckeye Diving School**

46 Warrensville Center Rd.

Bedford 44146

(216) 439-3697

Monday-Fri.: 12 to 8

Tues. &amp; Thurs.: 11 to 6

Saturday: 10 to 16

**C & J Scuba**

5825 North Dixie Dr.

Dayton 45414

(513) 890-6900

Monday-Thursday: 10 to 12

Friday: 10 to 9

Saturday: 10 to 5

**Dale's Diving Shop Inc.**

302 Meigs St.

Sandusky 44870

(419) 625-4134

10:30 to 5:30

Closed Wednesday and Sunday

**Dive Inc.**

428 Park Ave. West

Montgomery 46005

(419) 524-2484

Monday-Friday: 12 to 7

Saturday: 10 to 5

**Dive Inc., Columbus**

961 E. Dublin Granville Rd.

Columbus 43229

(614) 785-0950

Tuesday-Saturday: 10 to 7

Sunday: 10 to 5

Closed Monday

**Ka-Puka-Wai Dive Shop**

1900 University Ave. N.W.

Canton 44708

(216) 478-2511

Monday &amp; Thursday: 11 to 9

Tues., Wed., &amp; Fri.: 11 to 6

Saturday: 10 to 5

**Ohio Divers Supply**

12076 Quarry Rd.

North Baltimore 45872

(419) 257-2486

Monday-Friday: 8 to 8

Saturday: 8 to 8

**Underwater Enterprises**

832 Lake Ave

Elmira 46335

(216) 323-9542

Monday-Friday: 2 to 9

Saturday: 9 to 6

Sunday: 9 to 11

**OKLAHOMA****Chalet Sports**

2822 Country Club Dr. West

Oklahoma City 73116

(405) 840-1616

Monday-Saturday: 10 to 6

**OREGON****Aquatics Sports & Scuba Center**

10803 S.W. Barbur Blvd.

Portland 97219

(503) 245-4991

Monday-Friday: 10 to 7

Saturday: 10 to 4

**Northwest Divers Supply**

1911 Newark

North Bend 97459

(503) 756-3483

Monday-Saturday: 9 to 6

Sunday: 9 to 1

**Tri-West Diving Schools**

13604 S.E. Powell

Portland 97236

(503) 761-5435

Monday-Friday: 10 to 8

Saturday: 10 to 5

**PENNSYLVANIA****Aquatic Horizons**

1501 N. George St.

York 17015

(717) 848-6908

Monday-Friday: 8 to 8

Saturday: 8 to 4

**B & B Marine Specialties**

Hillierville-Bessemer Rd.

Hillierville 16132

(412) 667-9448

Daily: 9 to 7

**Bainbridge Dive Shop**

R.D. #1, Box 23-1

Bainbridge 17502

(717) 426-2114

Daily: 10 to 8

**Professional Diving Services**

113 Pittsburg

Springdale 15144

(412) 274-7711

Monday-Saturday: 9 to 9

**RHODE ISLAND****Providence Aquatic Center**

206 Elmwood Ave.

Providence 02907

(401) 274-4482

Monday-Friday: 10 to 8

Saturday: 10 to 6

**Scuba West**

9241 Skillman #104

Dallas 75243

(214) 348-8884

**Viking Dive Shop**

124 E. Main Rd.

Middletown 02840

(401) 847-4179

Sun.-Friday: 10 to 6

**SOUTH CAROLINA****Exotic Fish & Dive Shop**

2795 East North St. Extension #12

Greenville 29615

(803) 268-0631

Monday-Thursday: 10 to 8

Friday &amp; Saturday: 10 to 9

**Neptune Dive & Ski, Inc.**

1000 Columbia Ave.

North Augusta 29841

(803) 279-2797

Monday-Saturday: 10:30 to 6

**Wateree Dive Center, Inc.**

1767 Burning Tree Rd.

Columbia 29210

(803) 731-9344

**TENNESSEE****Adventure Swim & Scuba**

7664 Northshore Dr.

Knoxville 37919

(615) 690-3483

**Choo Choo Perimeter**

2900 Perimeter Ctr.

2825 Long Highway

Chattanooga 37421

(415) 899-1008

**Diving Adventures**

3046 Nolensville Rd.

Nashville 37215

(615) 333-DIVE(3483)

**TEXAS****Aquaventures Dive Shop**

10000 Custer Ave.

Bassett 77006

(409) 832-0254

**Copeland's**

4041 S. Padre Island Dr.

Corpus Christi 78411

(512) 854-1135

**Diver's Depot**

720 South St.

Metacocheches 75961

(409) 560-0002

**Lone Star Scuba**

2815 Alta Mere Dr.

Fort Worth 76118

(817) 377-DIVE(3483)

**Pro Scuba Supply**

341 So. Bonner

Tyler 75702

(214) 593-6254

**School of Scuba**

942 Walnut

Abilene 79601

(915) 673-2949

**Scuba Plus**

1404 W. Adams

Temple 76501

(817) 774-2200

**Scuba West**

5500 Greenville, Suite 901

Dallas 75206

(214) 750-6900

**Scuba West**

9241 Skillman #104

Dallas 75243

(214) 348-8884

**Scuba West**

14902 Preston Rd., Suite 412

Dallas 75240

(214) 960-1300

**Scuba West**

2552 Joe Field Rd.

Dallas 75229

(214) 241-2900

**Tradewind Diving Academy**

2110 West Ave.

San Antonio 78201

(512) 734-7442

**Tropical Divers**

2625 South 22nd Oaks #212

San Antonio 78121

(801) 642-7000

**UTAH****Dive Utah**

4676 South 2225 East

Holiday 84124

(801) 277-DIVE

**Scuba Utah**

1942 East 7000 South

Salt Lake City 84121

(801) 642-7000

**VIRGINIA****Lynnhaven Dive Center**

13 Green Neck Rd.

Virginia Beach 23454

(804) 481-7946

**The Ocean Window**

6715 "K" Beck Lick Rd.

Springfield 22150

**Silent World Divers**  
13600 N.E. 20th, Blvd. F., Suite A  
Bellevue 98005  
(206) 747-2200  
Monday-Friday: 10 to 7  
Saturday: 9 to 8  
**Sound Dive Center**  
990 Sylvan Way  
Bremerton 98310  
(206) 373-6141  
Monday-Friday: 10 to 6  
Saturday: 9 to 6  
Sunday (April to Sept): 11:30 to 3  
**Whidbey Island Dive Center**  
8638 Hwy 20  
Oak Harbor 98277  
(206) 675-1122  
Monday-Friday: 10 to 6  
Saturday: 9 to 6

## WEST VIRGINIA

Wavy Worldwide

Route 4, Box 570

Buckhannon 26201

(304) 624-7734

Tuesday-Friday: 11 to 7

Saturday: 11 to 3

## WISCONSIN

Aqua Center, Inc.

628 Bellavue St.

Green Bay 54302

(414) 468-8080

Monday: 10 to 7

Tuesday-Thursday: 10 to 5

Friday: 10 to 9

Saturday: 10 to 2

Closed Sunday

**Bernard Academy of**

Ski & Scuba

6509 W. North Ave.

Wauwatosa 53210

(414) 258-6440

Mon., Tues. & Sat.: 10 to 6

Wed., Thurs. & Fri.: 10 to 9

**Central Wisconsin Diving**

Academy

8751 Hwy. 13 S.

Wisconsin Rapids 54494

(715) 325-5568

Monday-Thursday: 9 to 5

Friday: 9 to 9

Saturday: 9 to 5

**Reefpoint Diving Center, Ltd.**

5600 Spring Street

Racine 53406

(414) 886-8502

Monday-Friday: 11 to 7

Saturday: 9 to 5

**CARIBBEAN**

**Boy's Diving Center**

Kaya Sentebula 29

Curacao, Netherland Antilles

599-9-614944 (Ext.: Diving)

Sunday-Saturday: 9 to 7

**Tamarlain Watersports**

P.O. Box 200, The Valley

Anguilla, B.W.I.

(609) 497-2798, 2462

Daily: 9 to 5

**UNEXSO-Underwater**

Explorers Society

P.O. Box F2433

Freetport, Bahamas

(809) 373-1244

Daily: 8 to 5

**Virgin Islands Diving**

Schools, Inc.

P.O. Box 9707, Charlotte Amalie

St. Thomas, V.I. 00801-3400

(809) 774-8897, 7368

Monday-Saturday: 8 to 5

**CANADA**

Bo-Lan

85 Lavigueur St.

Quebec City Quebec G1R 1A8

(418) 525-8892

Monday-Friday: 9 to 5:30

**Capilano Divers Supply**

1236 Marine Dr.

North Vancouver, B.C.

(604) 986-0302

Monday-Saturday: 9:30 to 6

**Dive Rescue-Sub Sea Experience**  
6928 104th St.  
Edmonton, Alberta T6H 2L7  
(403) 434-1433  
Monday-Saturday: 9 to 5:30  
**The Diving Locker**  
2745 West 5th Ave.  
Vancouver, B.C. V6K 1P9  
(604) 736-2681  
Fax: (604) 736-2320  
**The Great Pacific Diving Co. Ltd.**

10020 152nd St.  
Surrey, B.C. V3R 8X8  
(604) 583-1700  
Monday-Friday: 9:30 to 8  
Saturday: 9:30 to 6  
**The Watersports Store, Ltd.**

540 15th Avenue Rd.  
Toronto, Ontario M4S 2M6  
(416) 488-1105  
Monday-Thursday: 10 to 7

Friday: 10 to 8

Saturday: 10 to 6

**Pro-Dive Shop**

P.O. Box 5053  
Portugal Cove Road  
St. John's N.F.L.D. A1C 5V3  
(709) 753-3622  
Monday-Sunday: 9 to 5

**Seafun Divers Ltd.**

300 Terminal Ave.  
Nanaimo, B.C.  
(604) 754-4813  
Monday-Saturday: 9 to 6

**Skin & Scuba Schools**

#7, 3rd Floor, 5th St. N.E.  
Calgary, Alberta T2E 6S8  
(403) 250-7365  
Monday-Friday: 10 to 6

Saturday: 10 to 5

## FOREIGN

### CENTRAL AMERICA

**St. George's Lodge**

Box 626  
Belize City, Belize C.A.  
011-501-44190  
Daily: 24 hours

### CYPRUS

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Illustration by Nick Fain

BY RICHARD E. EASTON, M.D.

# Call Me in the Morning

**R**emember the movie *Day of the Dolphin*, with George C. Scott? I was so jealous of his working conditions that a picture of his research lab is indelibly burned into my brain: a tropical paradise with crystal clear azure-colored water—and all he did was teach, learn from, and play with wonderful creatures of the sea from morning til night.

Well, eat your hearts out divers, I recently talked to a real person named John Sathe, who actually does that for a living. He gets paid to play at a job that you and I get to enjoy only during our infrequent vacations.

Since John is a career scuba diver who is in the water three or more times per week and dives with his permanent

buddy, Brenda Savitz, just for fun on weekends, his insights are worth passing on. The wisdom flowed as we sipped cool ones on the aft deck of his docked live-aboard one lazy afternoon. John thinks of the tips and tricks he has learned over the years as "health insurance" paid into with attention to detail rather than dollars.

Sathe divided the pearls into three areas: the myth of dangers in the sea; the observation that first impressions can be wrong; and the fact that planning isn't just anything—it's everything.

**The Myth of Dangers in the Sea**  
Given the number of shark, sea snake, and killer whale productions on TV, it's a miracle that anyone takes up diving. According to Sathe, Pogo was right when he said: "We have met the enemy and he is US." The fishy creatures in the ocean that we fear will "come and get us" are not the problem. It is the human creatures who don't maintain their equipment properly who are the greatest danger in the sea—to

themselves, to their buddies, and to the divemaster responsible for the group. So rule number one is: practice preventive maintenance. Have an authorized dealer check your diving equipment on a regular basis, just the way you get a periodic physical check-up from your doctor.

## First Impressions Can Be Wrong

John elaborated on four popular misconceptions concerning water entry, out-of-air, alcohol, and visibility. In each case the first impressions students form during initial diver certification training need clarification and expansion.

New divers often focus too narrowly on entry into the water, without considering the difficulties they may have at the end of the dive. They concentrate initially on water depth, the slippery dive platform, or getting *into* the water quickly. However, they need to develop a broader view of the complete diving process, including getting back into the boat. Attention to a safe entry is important, but since the more dangerous

Richard Easton, M.D. is a graduate of the University of Kansas Medical School and the Harvard University School of Public Health. He is presently collaborating with his wife Fran, a Doctor of Psychology on a book tentatively titled, *Diving Secrets: Essential Keys to Diving Fun and Safety*.

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Chris Newbert

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problems arise when re-entering the boat in rough conditions, they need to determine how difficult re-entry will be and whether their skill level is up to the challenge.

Out-of-air is not a gradually gained experience. There may be two (low air and out of air) signals, but there is just one that counts: I AM OUT OF AIR! Therefore, you must monitor your air at all times. This is a simple and safe form of health insurance: know that your pressure gauge is accurate and check it often while diving.

Alcohol has what Scathe calls a "non-selective effect." Over the years he has observed that a small amount may have a serious, adverse effect on a diver one day, while a large amount (consumed by the same diver) may have little or no effect on judgment, air consumption, and overall performance the next day. Your first impression may have been that alcohol-related diving problems are proportional to the amount consumed: that the more one drinks, the greater the problem. That is a part of the story, but there is more to it than that. No matter how much a diver drinks, the effects of alcohol are totally unpredictable from day to day, person to person, and dive to dive. This unpredictability makes drinking before diving risky business.

Finally, we need to review the impressions we have of the relationship between safety and visibility. On first impression it seems that the better the visibility, the safer the dive, since we can see our buddy and the other divers with ease. To a certain extent, this is true. However, experienced divers know that visibility does not equal accessibility. The distance between buddies should be considered in terms of access time. The farther away you are, even if you can spot your buddy in seconds, the longer it will take you to get to where the trouble is in time to help, should the need arise.

## Planning Is Everything

Let's prove the importance of planning by a simple calculation. Jot down the number of days you spent planning your last dive trip. Multiply that number by 24 (hours in a day). List the number of dives you made on your last trip and figure out how many hours you were actually underwater. Now divide the hours diving by your above-water hours, and multiply by 100 to get the percentage of time you actually spent underwater. My underwater percentage is usually very small. If yours is too, perhaps you might agree that planning is essential to get the most out of each dive.

Members of Sath's dive team spend approximately 90 percent of their time planning and 10 percent diving. They

estimate eight to nine times as many hours are spent planning their underwater work as are spent on the bottom. The pros know planning is important, so shouldn't we all give it more thought?

#### Expect the Best, But Plan for the Worst

The discussion with John Sathe got me thinking about how divers could help themselves and any doctors they might have to consult while on a trip. Compiling a summary of current personal medical information is an important part of dive preparation. Be sure you have a phone number to reach your physician day or night if you are diving in the Scyphelles. It may even avoid a crucial delay if you are only diving the caves in southern Missouri.

*Experienced divers know visibility does not always equal accessibility*

Even divers with known medical problems don't anticipate trouble. They expect to dive and enjoy it, not sit around worrying about their problems, treatments, and medications. But accidents sometimes happen, and it is always best to have medical information immediately at hand. Carrying a medical data synopsis will:

1. Insure availability of a complete, although abbreviated, medical history;
2. Permit a new doctor to assess and treat any difficulty more efficiently than he might otherwise be able to; and
3. Prevent serious allergic reactions from drugs to which you are sensitive.

The medical data outline which follows, is one way to organize material about previous medical conditions, hospitalizations and operations, physician contact numbers, health coverage data, and allergies. You can modify this list to suit your individual needs. **S**

## Medical Data Outline—

*Efficient and effective medical care depends upon having crucial information available in a timely manner. This excerpt, taken from a complete medical history, should assist you in summarizing the most important data prior to a long domestic or foreign dive trip.*

Your Age: \_\_\_\_\_ Today's Date: \_\_\_\_\_

Name: \_\_\_\_\_ (last) \_\_\_\_\_ (first)

#### List Your Major Medical Problems

In plain language or by diagnosis, list each problem on a separate line.

#### List Your Health Insurance Policies

Name of company, policy number, phone, emergency or Toll-Free contact numbers.

#### Places You Have Been Hospitalized

Note the year, the reason you were hospitalized, and how to contact the hospital; list each on a separate line.

#### Year Hospital Name, Address & Phone Reason For Hospitalization

#### Physicians Or Others Who Have Cared For You In The Past

Year Name, Address & Phones Reason Or Disease

\_\_\_\_\_

Include day, night, and answering service phone numbers.

#### Drug Allergies

Drugs are good only if they make you better, not worse; list the drugs that do not agree with you.

Allergic reactions include such things as rash, diarrhea, vomiting, loss of consciousness, severe asthma, drop in blood pressure.  
Special Directions For This Section.

Mark an "X" in this column if you have taken the drug regularly in the past 60 days.

- |   |                             |
|---|-----------------------------|
| <input type="checkbox"/> 1 Aspirin, Bufferin*, Anacin*, etc.                          | 1 <input type="checkbox"/>  |
| <input type="checkbox"/> 2 Sedatives, nerve pills or tranquilizers                    | 2 <input type="checkbox"/>  |
| <input type="checkbox"/> 3 Pep pills, stimulants or diet pills                        | 3 <input type="checkbox"/>  |
| <input type="checkbox"/> 4 Asthma or hayfever pills or shots                          | 4 <input type="checkbox"/>  |
| <input type="checkbox"/> 5 Diabetes pills or insulin shots                            | 5 <input type="checkbox"/>  |
| <input type="checkbox"/> 6 Heart medicine, digitalis                                  | 6 <input type="checkbox"/>  |
| <input type="checkbox"/> 7 Nitroglycerine, nitro pills                                | 7 <input type="checkbox"/>  |
| <input type="checkbox"/> 8 Water pills, diuretics, high blood pressure pills or shots | 8 <input type="checkbox"/>  |
| <input type="checkbox"/> 9 Blood thinner pills, Coumadin*, warfarin                   | 9 <input type="checkbox"/>  |
| <input type="checkbox"/> 10 Codeine, morphine, Demerol*, Percodan* or other narcotics | 10 <input type="checkbox"/> |

(Please turn to page 75)

# Primeval Predator

BY EDWARD WEBER

Photos by F. Stuart Westmorland



A juvenile Puget Sound king crab.

"Go straight down the anchor line and follow the yellow rope over the edge of the wall. Descend to 100 feet, then swim along the wall looking down. They should be below you."

As the divemaster issued these instructions, I sat wondering just what we were doing here. Most people try to avoid sharks. Those who pursue them usually do so from the safety of a cage. Not only did we not have a cage, but we were going a hundred feet down into icy Northwest waters to find a shark that

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Edward Weber is the Northwest Editor for Discover Diving magazine. He is based in Seattle and this is his first contribution to Diving & Snorkeling magazine.

nobody knows much about.

The dive boat was anchored off Flora Islet in the northern Gulf Islands of British Columbia, Canada. Stuart Westmorland, my frequent companion in outrageous diving adventures, clamped a hand over his face mask and rolled backwards into the emerald waters of the Strait of Georgia. Reluctantly, I followed.

We had come to dive with and photograph the elusive and prehistoric six-gill shark (*Hexanchus griseus*). Little is known about the six-gill shark as they usually inhabit ocean depths to 6,000 feet. For reasons yet to be explained, this primeval creature migrates from the ocean depths to patrol the shallow walls of Flora Islet during the spring and summer months, offering divers the chance to see a real live *dinosaur*.

The six-gill is among the oldest of all living sharks. Its name is derived from the fact it has six gill slits, whereas modern sharks have evolved to five. Believed to grow as large as 15 feet and weigh as much as 1,300 pounds, the six-gill's body is very broad and usually gray in color. Unlike most other sharks which have two dorsals, the six-gill lacks the front triangular dorsal fin that usually serves as the trademark of the species.

Their large heads have an equally large mouth which runs almost the entire length of the head. Set in neatly spaced rows, the six-gill's mouth sports two different types of teeth. The upper set is triangular, while the lower teeth have saw-like serrations. Their diet consists of fish, seals, and even each other.

The fact that the six-gill has been caught in the nets of fishermen leads biologists to believe that they prey upon commercially-sought fish species such as salmon. It is interesting to note that the areas around Flora Islet and Hornby Island have large summer salmon runs. Schooling salmon have also been spotted along the walls where the six-



## *Sharks are seldom seen in the Pacific Northwest, but one species can be found by divers.*

gills are known to frequent. Do the six-gills come here to feed? Do they come to this area for breeding? These questions have yet to be answered. No reported attack on a human by a six-gill has ever been recorded. The eyes of the six-gill are mysterious and somewhat eerie. Because they are thought to have poor vision, the shark's movements seem somewhat lethargic as they move along the ocean floor.

Armed with the divemaster's instructions, we descended along the anchor line through the murky plankton layer. Below it, the visibility increased to 40 feet. We followed the guide rope to the edge of the wall and looked down into the black abyss. We dropped over the edge and began to follow the 100-foot level along the wall. The marine life

clinging to the wall was spectacular and seemed to be a mix of ancient and new. Thousand-year-old cloud sponges with juvenile rockfish seeking refuge in the sponge openings adorned the wall. Dahlia anemones and seastars competed for space between the sponges. The wall plunged down into such darkness I wondered how we would ever see the sharks.

We had swum about 50 yards down the wall when suddenly I noticed a large dark shadow coming toward me, moving closely among the sponges. There he was! The shark moved along the wall with a sluggish back and forth motion. With trepidation I moved in close, counted the gills and for a few minutes we swam alongside one another like seasoned dive buddies! I wasn't sure if



A six-gill shark patrols the walls of Flora Islet. Divers prepare to enter Ford Cover.

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he was oblivious to my presence or if he just didn't mind the company.

I had to sustain my urge to reach out and run my hand along his rough skin. I had heard stories of encounters where divers had reached out to touch or grab a six-gill, only to have the shark reel around, mouth agape, as if to say, "You can look—but don't touch!" Stuart moved in and fired a couple of flashes from his camera. Because of all the commotion in front of him, the shark moved out away from the wall. His motion quickened, and I wondered if he was beginning to lose his bearing without the wall or bottom to relate to. The six-gill moved back close to the wall ahead of us and started descending.

In my excitement over the encounter, I chased after him to try to get a picture. I seemed to forget the fact that our descent started at 100 feet. Realizing this, I stopped to check my depth gauge. The needle read 140 feet. I looked down and watched the shark disappear beyond my visibility, then started up to find Stuart. We followed the wall up and relocated the guide rope. At 10 feet, we made a safety stop, then rose to the boat.

The entire encounter could not have lasted more than a few minutes, though it seemed to last much longer. I realized afterward that even though the shark was over 10 feet long, I had had no fear and we seemed to be in no greater danger than if it had been an angelshark. Were we crazy? I didn't think so, and I couldn't wait to get back!

Back in the boat, we excitedly recounted the dive with our divemaster Bob Zelinski. Bob has been leading divers out of Flora Islet ever since the six-gills were first sighted. Bob recalled the first encounter.

"A man named Bruce Howe used to come up and dive with us every summer. After a dive at Flora Islet, Bruce came running up to me and shouted, 'We saw sharks, we saw sharks!' I told him he was crazy, we don't have sharks in these waters, but after a few dives along the wall, I saw them too."

Bob fired up the outboard on his 26-foot launch, and we started back to Ford Cove on Hornby Island. It is here that Bob retired 14 years ago and built the Hornby Island Diving Lodge with ingenuity and his own two hands. Ford Cove is an idyllic, quiet area on the southwest side of Hornby Island. The quaint island of Hornby is primarily populated by a counter-culture of aging hippies and free spirits who came here years ago to live off the land. As a result, the island's center is the co-op grocery store and outdoor market place. The dozen or so small shops offer everything from snacks and books to native-made handicrafts.

Set in the pristine marine wilderness of British Columbia, Hornby Island diving offers not only shark diving adventures, but trips out among some of the most colorful coldwater reefs in the world. The Hornby Island Diving Lodge is a unique style of dive resort. The lodge houses divers dormitory-style in one large sleeping room.

There is a large modern community kitchen and eating area, where visitors bring and cook their own food. The upstairs loft offers a television and video player, which are the only entertainment in this remote area. The diving facilities include two 10-cfm compressors, rental tanks, weights, and the

26-foot aluminum skiff to get out to the sites.

For the last couple of years, Bob has lobbied the Canadian Fisheries Department to close the area around Flora Islet to long-line fishing. A few six-gills have actually been caught by the fishermen, causing concern that the sharks may be driven out of the area.

The unique experience of diving with a prehistoric shark, combined with the sheer beauty of the Canadian marine wilderness, make this an adventure you will not want to miss. For more information on diving with the six-gill sharks, contact Bob Zelinski at Hornby Island Diving. Phone: (604) 335-2807. \$

### CALL ME (Continued from page 71)

- |                             |  |    |                          |
|-----------------------------|--|----|--------------------------|
| <input type="checkbox"/> 11 | Thyroid medicine, Synthroid*, dessicated thyroid           | 11 | <input type="checkbox"/> |
| <input type="checkbox"/> 12 | Hormone pills or shots                                     | 12 | <input type="checkbox"/> |
| <input type="checkbox"/> 13 | Cortisone, steroids, prednisone                            | 13 | <input type="checkbox"/> |
| <input type="checkbox"/> 14 | Antibiotics, sulfa drugs, penicillin, cephalosporins       | 14 | <input type="checkbox"/> |
| <input type="checkbox"/> 15 | Cough medicine, terpin hydrate, dextromethorphan           | 15 | <input type="checkbox"/> |
| <input type="checkbox"/> 16 | Iron, vitamins or tonics                                   | 16 | <input type="checkbox"/> |
| <input type="checkbox"/> 17 | Stomach/ulcer meds., antacids, Tagament*, Zantac*, Pepcid* | 17 | <input type="checkbox"/> |
| <input type="checkbox"/> 18 | Horse serum, tetanus or lock jaw shots                     | 18 | <input type="checkbox"/> |
| <input type="checkbox"/> 19 | Transfusions of blood, dextran or other similar substances | 19 | <input type="checkbox"/> |
| <input type="checkbox"/> 20 | Marijuana  | 20 | <input type="checkbox"/> |
| <input type="checkbox"/> 21 | LSD, acid  | 21 | <input type="checkbox"/> |
| <input type="checkbox"/> 22 | Speed, uppers, bennies, cocaine                            | 22 | <input type="checkbox"/> |
| <input type="checkbox"/> 23 | Radioactive isotopes, atomic cocktails                     | 23 | <input type="checkbox"/> |
| <input type="checkbox"/> 24 | Other: (write in names)                                    | 24 | <input type="checkbox"/> |

\* = Registered Trade Name

List all medicines for which you now have prescriptions:

Medicine name	Starting date Month/ Year	Prescription number	Pharmacy phone AC & no.	Prescribed by your doctor (Yes or No)

### International Note

For international dive travel get duplicate copies of prescriptions for all medications you are presently taking.

In addition, obtain access to a Physician's Desk Reference (PDR), copy the pages describing the medications you are carrying with you. If possible, make color copies or photographs of the pages which display pictures of the specific medications you are taking overseas.

International authorities can be very unsympathetic toward anyone possessing "drugs" categorized as (or mistaken for) illegal or unauthorized substances.

### Prescription Eye Wear

The only time you will ever drop your glasses overboard or have your prescription mask come off and disappear into the abyss is when you don't have a back-up. Depending upon your situation, you should consider taking a copy of your eye wear prescription from your ophthalmologist (or optometrist), and second sets of clear and tinted lens glasses for dive boat use. In very special circumstances, a back-up mask with built-in prescription lenses or a set of prescription lenses that will pop in to a second mask might be in order.

\$



La Belle Creole Resort on St. Martin.

## SUPER RESORTS

(Continued from page 43)

cludes a lounge with full bar, stereo, and six glass-bottom hulls for underwater viewing. It regularly visits sting ray city for snorkel and dive trips.

The Hyatt Regency is adjacent to the Jack Nicklaus-designed Britannia golf course which features the revolutionary Cayman Ball, that travels only half as far as a regular golf ball.

Diving is handled by Red Sail Watersports, which also has paddle boats, wind surfers, jet skies, Sunfish, and Hobie Cats. Red Sail, which runs a complete dive shop, uses two dive boats, the *Reef Spirit* and the *Coral Spirit*. Both of the 46-foot aluminum craft (with top speeds of 20 knots) feature freshwater showers and dip tanks, ice coolers, and on-board restrooms. Divemasters set up and wash down all equipment. A two-tank morning dive that includes snacks and drinks is \$50; one tank in the afternoon is \$35. Full PADI certification is available. A 45-foot custom-designed fishing yacht runs \$600 to \$800 per day for 6 to 8 anglers.

Rooms at the Hyatt Regency Grand Cayman are far less expensive than at the Waikoloa. A standard room is \$225 in winter or \$315 during summer; the Regency Club with concierge service from \$385 in winter to \$250 in summer; the Governor's Suite from \$900 in winter to \$650 in summer. A one-bedroom villa is \$375 in winter, \$225 in summer; three bedrooms from \$575 in winter to \$400 in summer. Villas have a 3-night minimum stay. For information, call (800) 228-9000.

### Stouffer Grand Beach, St. Thomas

This 34-acre, 290-room property is the only AAA, 4-diamond resort in the Virgin Islands. Hurricane Hugo closed the \$55 million Stouffer for a few weeks, but it reopened December 1 in time for

the peak winter season.

Sunfish, snorkeling equipment, and windsurfers are available to guests free of charge. The four hard-surface and two synthetic grass-surface tennis courts (lit at night) also are free of charge. Tennis lessons and clinics are taught by a resident pro. The Stouffer, just down the hill from the Coral World attraction, has two swimming pools and its own private beach. Golf is available at Mahogany Run golf course just two miles away.

A free-of-charge, special children's program operates year-round. For children aged 3 to 14, the program features arts and crafts activities, an iguana hunt, sand sculptures and face painting, and beach olympics.

The Chris Sawyer Dive Center, located on the property, offers both resort and certification courses. It offers weekly trips to the nearby British Virgin Islands and the wreck of the *Rhone*, the ill-fated vessel sunk in a hurricane a century ago and which served as a movie set for the film, *The Deep*.

The air-conditioned rooms have fully stocked mini-bars, 30-channel cable TV, in-room safes, and hair dryers. Rates for the high winter season (based on two adults per room) are \$295 for a standard garden view; \$340 for a superior hillside view; \$390 for a deluxe ocean or pool view; and \$875 for a two-bedroom penthouse. Rates are approximately 35 percent less in summer.

A special summer "Breakation" for scuba divers offers 10 dives including a night dive, luxurious accommodations, continental breakfast, and roundtrip airport transfer for approximately \$1,900 per couple for seven nights. A beginning diver's "Breakation" that includes full certification and several boat/shore dives is approximately \$2,000 per couple. Or, for an ultimate summer lifestyle "Breakation" (about \$10,000 per couple) you can have a townhouse with Jacuzzi; helicopter transfers to and from the

airport; full American breakfast and fully stocked mini-bar; seven exciting dining experiences including one in nearby Puerto Rico; two full-day sail; scuba lessons and a dive on the *Rhone*; and a private tour of St. Thomas by limousine. For information, call (800) HOTELS-1.

### La Belle Creole, St. Martin

La Belle Creole is a new resort with stone walkways and fountain-embellished courtyards built to recreate a French Mediterranean seaside village. The 25-acre La Belle Creole, situated at Pointe des Pierres la Chaux peninsula overlooking Marigot Bay, has only 156 rooms, each one architecturally different. The hotel originally was the dream of a vice president from New York's famed Waldorf-Astoria hotel who wanted to create a resort like no other in the world. The dream proved too costly and after 10 years of construction, the property went into bankruptcy and was vacant for almost 20 years. It is now owned by the Conrad Hotels, an international subsidiary of Hilton Hotels USA, which has finally made the extravagant dream a reality.

The watersports center is one of the most complete, offering paddle boats, aqua-trikes, windsurfers, wave runners, Sunfish, waterskiing, power boat rentals, and snorkeling. Four lighted, hard-surface tennis courts and private or semi-private lessons are available hourly. The 30-foot catamaran *Bip Bip* provides daily sailings from St. Martin to Anguilla.

Although the hotel has been opened for a year, diving is a late addition and at press time details were not finalized. It was expected to be going full steam by January 1. The on-site dive center, besides offering dive trips, is expected to offer full certification to be taught in a specially constructed marine lagoon containing corals and fish just off the main beach.

La Belle Creole's rooms have a minimum of 400 square feet of living space, and feature Italian marble bathrooms, Spanish terracotta floors, hand-wrought iron chandeliers, intricately carved doors, and high beam ceilings. The bleached ash and rattan furniture is imported from the South of France.

The rooms have air conditioning, a ceiling fan, fully stocked servi-bar, color TV, phone, smoke alarms, and hair dryer. Peak season winter rates per couple per night are \$265 for a standard room to \$580 for a deluxe room, while 1-bedroom suites are \$795 to \$905. Summer room rates are \$150 for a standard to \$390 for a deluxe; suite rates are not discounted. For information, call (800) HILTONS.

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La Belle Creole Resort on St. Martin.

## SUPER RESORTS

(Continued from page 43)

cludes a lounge with full bar, stereo, and six glass-bottom hull panels for underwater viewing. It regularly visits sting ray city for snorkel and dive trips.

The Hyatt Regency is adjacent to the Jack Nicklaus-designed Britannia golf course which features the revolutionary Cayman Ball that travels only half as far as a regular golf ball.

Diving is handled by Red Sail Watersports, which also has paddle boats, wind surfers, jet skies, Sunfish, and Hobie Cats. Red Sail, which runs a complete dive shop, uses two dive boats, the *Reef Spirit* and the *Coral Spirit*. Both of the 46-foot aluminum craft (with top speeds of 20 knots) feature freshwater showers and dip tanks, ice coolers, and on-board restrooms. Divemasters set up and wash down all equipment. A two-tank morning dive that includes snacks and drinks is \$50; one tank in the afternoon is \$35. Full PADI certification is available. A 45-foot custom-designed fishing yacht runs \$600 to \$800 per day for 6 to 8 anglers.

Rooms at the Hyatt Regency Grand Cayman are far less expensive than at the Waikoloa. A standard room is \$225 in winter or \$135 during summer; the Regency Club with concierge service from \$385 in winter to \$250 in summer; the Governor's Suite from \$900 in winter to \$650 in summer. A one-bedroom villa is \$375 in winter, \$225 in summer; three bedrooms from \$575 in winter to \$400 in summer. Villas have a 3-night minimum stay. For information, call (800) 228-9000.

## Stouffer Grand Beach, St. Thomas

This 34-acre, 290-room property is the only AAA, 4-diamond resort in the Virgin Islands. Hurricane Hugo closed the \$55 million Stouffer for a few weeks, but it reopened December 1 in time for

the peak winter season.

Sunfish, snorkeling equipment, windsurfers are available to guests of charge. The four hard-surface synthetic grass-surface tennis (lit at night) also are free of charge. Snorkeling lessons and clinics are taught by resident pros. The Stouffer, just the hill from the Coral World attraction, has two swimming pools and a private beach. Golf is available at Mahogany Run golf course just miles away.

A free-of-charge, special children's program operates year-round for children aged 3 to 14, the program features arts and crafts activities, game hunt, sand sculptures, art painting, and beach Olympics.

The Chris Sawyer Dive Center located on the property, offer resort and certification courses. I weekly trips to the nearby British Islands and the wreck of the *Rhode Island*, ill-fated vessel sunk in a hurricane long ago and which served as a set for the film, *The Deep*.

The air-conditioned rooms have stocked mini-bars, 30-channel cable in-room safes, and hair dryers. Rates in the high winter season (based on two adults per room) are \$295 for a standard garden view; \$340 for a superior hillside view; \$390 for a deluxe ocean or pool view; and \$875 for a two-bedroom penthouse. Rates are approximately 35 percent less in summer.

A special summer "Breakaway" for scuba divers offers 10 dives including a night dive, luxurious accommodations, continental breakfast, and roundtrip airport transfer for approximately \$1,900 per couple for seven nights. A beginning diver's "Breakaway" that includes full certification and several boat/shore dives is approximately \$2,000 per couple. Or, for an ultimate summer lifestyle "Breakaway" (about \$10,000 per couple) you can have a townhouse with Jacuzzi; helicopter transfers to and from the

airport; full American breakfast and fully stocked mini-bar; seven exciting dining experiences including one in nearby Puerto Rico; two full-day sailboats; scuba lessons and a dive on the *Rhone*; and a private tour of St. Thomas by limousine. For information, call (800) HOTELS-1.

## La Belle Creole, St. Martin

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7 8 9  
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LIMIT  
SETTING  
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DEPTH 200 FT  
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# Trivia Quiz Answers

1. True
2. False
3. 14.7 pounds; 33 feet
4. c. Sting ray

5. c. Trailed behind the diver
6. c. Never exceed the no decompression depth/time tables
7. Respiration
8. 1. = d; 2. = c; 3. = e;  
4. = a; 5. = b
9. True
10. d. Nose bleed
11. 1. = b; 2. = d; 3. = c;  
4. = a
12. True
13. Boyle's law
14. b. Nitrogen narcosis
15. False
16. b. Very weak surf
17. b. Hypothermia
18. 1. = b; 2. = c; 3. = d;  
4. = a
19. 1. = b; 2. = c; 3. = a
20. Thermocline

## BLOCK PARTY

(Continued from page 31)

to one of the island's two lighthouses, or to New Harbor, on the other side of the island, which we hear is as trendy as Old Harbor is quaint. But we have to be on board when our dive boat heads back to Montauk, so we walk back the way we came and leave plenty to see on another windy day.

### Diver's Compass

Block Island has no dive shop and only minimal support facilities. (An air fill station at Old Harbor is open sporadically). Divers usually either make day trips from the Rhode Island mainland, bring sufficient tanks for their stay, or arrange to have a compressor on the dive boat.

Overnight accommodations are available at any of Block Island's numerous hotels or inns, and taxi service is available. Not all hotels offer rooms with private baths, and only about half a dozen facilities are open year-round. Summer room rates range from \$60 to \$165. Camping is prohibited on Block Island.

Restaurants range from outdoor snack bars to excellent eateries specializing in nouvelle cuisine. The multi-course country breakfast at the Surf Hotel is a local legend—delicious, but much too much to eat before a day of diving.

The Block Island Chamber of Commerce publishes an excellent map and a directory, which are available for a small donation. Write or call the Chamber at Drawer D, Block Island, RI 02807. Phone: (401) 466-2982.

For more information about traveling in Rhode Island, contact the Rhode Island Tourism Division, 7 Jackson Walkway, Providence, RI 02903.

To arrange a Block Island dive trip, call any of the Rhode Island dive stores in the SCUBAPRO Directory in this magazine, or contact one of the charter boat operations listed below:

**Agnoual**—Capt. Frank Long, 20 Met-tatuxet Rd., Narragansett, RI 02882. Phone: (401) 789-7672.



Village Center on Block Island. Photo courtesy of Rhode Island Dept. of Economic Development.

**Patience**—Capt. Rick Walker, 25 Old Coach Rd., Charleston, RI 02813. Phone: (401) 364-6538.

**Thunderfish**—Capt. Billy Palmer, 136½ Clifton St., Wallingford, CT 06492. Phone: (203) 269-0619.

**Seascapes International**—88 Lakeview Dr., Kings Park, NY 11754. Phone: (516) 366-4231.

**Undersea Adventures**—Box 888, Miller Place, NY 11764. Phone: (516) 928-3849.

## NAUI Recalls Calculator

**T**he National Association of Underwater Instructors has announced the immediate recall of the NAUI Dive Time Calculator, Product #137.

Typographical errors have been discovered, and although not life-threatening, these errors are significant enough to warrant an immediate recall.

All divers in possession of this product are urged to stop using it and return their Dive Time Calculator to NAUI headquarters for immediate replacement.

Return product to: NAUI, Attn: RECALL, P.O. Box 14650, Montclair, CA 91763-1150.



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